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CONTENTS

Editorials (For Titles See Extended Table of Contents).. 409

ORIGINALS

President's Address. *E. P. Sloan, M. D., Bloomington.* 421

Address of Acceptance. *Edward H. Ochsner, M. D., Chicago* 423

Surgical Judgment. *John H. Gibbon, M. D., Philadelphia, Pa.* 424

Certain Factors to Be Considered in Judging the Effects of Prohibition in Relation to the Use of Narcotics. *Lester D. Volk, M. D., Brooklyn, N. Y.* 428

Smallpox, Its Differential Diagnosis. *Archibald L. Hoyne, M. D., Chicago* 433

Tuberculosis in Bones and Joints. *William A. Kimmel, M. D., Oak Forest, Ill.* 436

Nephrolithiasis Complicating Pregnancy. *Aime Paul Heineck, M. D., Chicago* 442

Specific Hypersensitiveness as a Common Cause of Illness. *W. W. Duke, M. D., Kansas City, Mo.* 445

Notes on the Treatment of Compound Fractures of the Extremities. *William H. Byford, M. D., Chicago* 452

Gunshot Injury Involving the Ulnar Nerve. *Arrie Bamberger, M. D., Chicago* 453

Acute Appendicitis in Children. *Thomas H. Kelley, M. D., Chicago* 454

The Modern Conception of Acidosis. *Julius S. Weingart, M. D., Des Moines, Iowa* 459

Continued on page 14

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ILLINOIS MEDICAL JOURNAL

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ILLINOIS MEDICAL JOURNAL

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Editorial

THE DECATUR MEETING

The 73rd annual meeting of the Illinois State Medical Society adjourned May 17, 1923, after what might be justly termed the most interesting session held in the Society in years.

This in spite of the fact that during the first two days of the meeting it rained continually rendering the roads impassable thus preventing hundreds from attending the meeting who would otherwise have done so. In spite of the inclement weather there was a registration of six hundred.

From the scientific standpoint the papers read at this meeting were above the average of papers read at previous meetings.

The House of Delegates met regularly and transacted a great amount of business. The reports of the numerous elective and appointive committees were the best ever presented to the House of Delegates and demonstrated clearly that the men presenting the reports are alive to the problems confronting the profession.

All the papers read at the annual meeting will be published during the year. Those who were unable to attend the meeting will read these papers at their leisure.

Dr. L. C. Taylor of Springfield was elected President-elect. Dr. E. H. Ochsner of Chicago becomes the active President of the Illinois State Medical Society. We have every reason to expect that the newly elected officers will carry on a strenuous campaign of efficiency in behalf of the interests of the profession that has characterized the term of their predecessors.

Dr. Ochsner's portrait appears as a supplement in this issue of the JOURNAL.

THE SENATE VOTE ON THE SHEPPARD-TOWNER CO-OPERATION BILL

The following is the affirmative and negative vote on the co-operative Sheppard-Towner Bill

that passed the Illinois State Senate last week. The vote of the respective Senators should be preserved by the Doctors in each senatorial district. The data will be found useful at some subsequent date.

The following Senators voted in the affirmative:

Bailey, Barbour, Barr, Buck, Dailey, Dunlap, Duvall, Essington, Ettelson, Glackin, Glenn, Haenisch, Hicks, Jewell, Kessinger, MacMurray, Marks, Mason, Roos, Schulze, Searcy, O. W. Smith, Sneed, Swift, Telford, Turnbaugh, VanLent. Yeas—27.

The following voted in the negative: Messrs. Boyd, Boehm, Carlson, Giberson, Gray, Mills, Piotrowski, Webster. Nays—8.

Answering present but not voting: Messrs. Cuthbertson, Shaw, N. E. Smith, Wright. Total—4.

Note: That Senator Barbour made a speech for the Bill and among other things said: "The Doctors think they own me;" that Senator Dunlap made a speech for the bill; that Senator Glenn spoke for the Bill and kidded the Doctors throughout his speech; that Senator Jewell spoke for the Bill as did also Senator Mason, likewise Senator Swift.

Senators Boehm, Giberson, Mills and Webster spoke against the Bill. Senator Wright, a Doctor, was present but did not vote.

OFFICIALS ENSLAVE UNITED STATES. 15,000,000 PENSIONERS ON PUBLIC BOUNTY.

The *New York World,* August 1, 1922, quoting a speech of Senator Stanley in the United States Senate says: Senator Stanley deplores the high cost of government, drawing a parallel to pre-revolution France. He says further: The cost of Government has become "unbearable" and a continuation of existing circumstances will lead to conditions similar to those that brought about the French Revolution.

The Senator said that he did not blame any political party, but a *"paternalistic regime" for a situation which, he fears, "will enslave and bankrupt this country."*

"It has been said," Mr. Stanley went on, "that there are 15,000,000 pensioners on public bounty. If that is true, there is an officeholder, a tax eater, on the backs of every two tax producers in the United States. That situation crushed France and produced the French Revolution; it was the bane and the damnation of Germany."

Mr. Stanley asserted too many functions of local and State Governments and of the courts are now being controlled by hidden bureaus in Washington.

"There is more power today exercised in these marble sarcophagi by unknown experts, politically controlled appointees of whispering propaganda, than by the courts themselves," he said.

As quoted by the *New York Telegram,* editorially, August 4, from the same speech:

"He pointed out that expenditures arising out of wars had caused enormous waste in officialism." He went on:—

"It is due to persistent growth of bureaucratic control, the increase of the personnel of departments and of commissions and of boards and of burasus and of every other agency ever used or ever abused by a paternalistic regime."

Note and Comment: Nowhere is the danger of bureaucratic control of the destinies of the human family more pernicious and dangerous then in the attempt of lay people to dictate and direct the practice of medicine. There is too much officialdom both within and without the profession. In medical affairs a bureaucracy has sprung up in recent years, anti-dating the development of the same sort of bureaucratic autocracy referred to by Senator Stanley in national lay officialdom.

Congressman Volk has clearly shown and proven how the interlocking activities of such medical and lay bureaucratic officialdom have produced the narcotic drug situation with its horrors in this country.

The administration of the Volsted Act under the Prohibition Amendment, shows another striking example.

The Sheppard-Towner Maternity Bill or Act is another example of the possibilities of the frightful expense and bureaucratic autocracy possibilities under medical, pseudo-medical or lay officialdom.

Health insurance, and the various schemes of State Medicine, in their promoted forms, furnish still other examples of the legislative and administrative abortions of frightful expense and of administrative power and possibilities of official corruption and graft and blackmail and terrorism.

ABOLITION OF COCAINE

The following communication appeared in *The London Times* of March 24. The authors, Sir W. M. Bayliss and Dr. C. W. Saleeby, are among the best known medical authorities in Great Britain. This letter is of interest in this country as showing the attitude of physicians in England towards the narcotic situation there and particularly to cocaine. It is also of interest to note that credit is given to American research for the discovery of a safe substitute for cocaine.

To the Editor of the Times: "We submit that the abolition of the use of cocaine by international action is the only effective means of ending the evils to which this drug gives rise, and this is now feasible without detriment to any department of surgical practice.

The failure, everywhere, of all past or present methods of control is acknowledged. One of us has recently observed, in Montreal, the futility of the combined efforts of the police, the health authorities and the Customs officers, and he has returned to Europe to find similar failure alike in this country and in France. Montreal, it may be noted, is the headquarters for the illicit distribution of the drug in North America. It is evident, and for evident reasons, that so long as the drug is manufactured it will be misused. In the light of the experience of other countries, we are entirely skeptical of the success of the new legislation proposed by the Home Office.

The Committee on the Use of Cocaine in Dentistry reported in 1917 (Cd. 8489), suggesting further restrictive legislation. One of the present writers, serving on that committee, did not sign the report, but appended a memorandum in which the view was expressed that, according to the evidence of leading dental surgeons, cocaine was no longer needed in dentistry, completely effective substitutes, such as procaine, being available.

A new synthetic substitute, known for short as "butyn," has now been prepared in Chicago and tested widely with very good results. Like procaine, it has no action on the central nervous system. A highly favorable report on its use in ophthalmic practice appeared in the *British Medical Journal* for January 13 last. Its introduction completes the argument advanced in 1917.

International action should, therefore, be taken to end the present manufacture of cocaine in Germany and Switzerland or elsewhere, and the cultivation of the cocoa plant in Peru, Java, Bolivia and other countries. The best instrument for such action, given an instructed and active public opinion in the various countries concerned, is the Opium Committee of the League of Nations. Though neither the United States nor Germany is as yet a member of the League, both of these countries are represented on the Opium Committee. We urge that our government should give full and cogent instructions in this sense to Sir Malcolm Delevigne, the British representative on that committee, prior to its next meeting in May. This, we are convinced, is the only way with cocaine.

We are, Sir, yours,
W. M. BAYLISS,
C. W. SALEEBY."

OSTEOPATHS CANNOT PRACTICE MEDICINE AND SURGERY

An osteopath, practicing in Twin Falls County, Idaho, was convicted of practicing surgery without a license, following the performance of appendectomy, after prosecution in the superior court. An appeal to the state supreme court resulted in confirmation of this verdict. The decision states that the holder of a license to practice osteopathy in Idaho is not authorized to practice medicine and surgery. The full text of the decision follows:

Appellant was convicted of practicing medicine and surgery without a license, with the intent of receiving compensation therefor. The operation performed consisted of making an incision into the abdomen of a human being and removing the appendix. It was shown that the appellant did not have a license authorizing him to practice medicine and surgery, but held a license authorizing him to practice osteopathy.

That the legislature has power to prescribe the qualifications for those engaged in the practice of medicine and surgery, or either, and to prohibit or penalize such practice by one not possessing such license, is not open to doubt. State v. Johnson, 84 Kan. 411, 114 Pac. 390, 41 L. R. A. N. S. 539; Brag v. State, 134 Ala. 165, 32 So. 767, 58 L. R. A. 925.

In 1899, the legislature of this state enacted a law regulating the practice of medicine and surgery. This law was substantially the same as Title 16, Chap. 90, of the Compiled Statutes. By C. S. 2105, it is provided that every person, except as otherwise provided by law, desiring to commence the practice of medicine and surgery, or either of them, within the state shall show certain educational qualifications and submit to an examination. C. S. 2112 contains the definition of the practice of medicine and surgery, or either. The statute also makes it a misdemeanor for one to practice medicine and surgery who has not obtained the requisite license.

In 1907, the legislature passed an act regulating the practice of osteopathy which is now chapter 92 of the same title in the Compiled Statutes. This statute provides that a successful applicant shall receive "a certificate granting him or her the right to practice osteopathy in the State of Idaho." Unless, therefore, the term "osteopathy" is broad enough to comprehend surgery, or in other words, unless the practice of osteopathy includes the practice of surgery, the statutory prohibition of the practice of medicine and surgery, except by one who has obtained the license to practice medicine and surgery as prescribed by Chapter 90, still prevails.

The New Standard Dictionary of the English lan-

guage defines osteopathy as follows: "A system of treating disease without drugs, propounded by Dr. A. T. Still, 1874. It is based on the belief that disease is caused by some part of the human mechanism being out of proper adjustment, as in the case of misplaced bone, cartilage, or ligament, adhesions or contraction of muscle, etc., resulting in unnatural pressure on or obstruction to nerve, blood, or lymph. Osteopthy * * * seeks to adjust correctly the misplaced parts by manipulation."

In the case of State v. Johnson, supra, quoting six words and phrases, p. 5070, osteopathy is defined as "a method of treating disease of the human body without the use of drugs, by means of manipulations applied to various nerve centers—chiefly those along the spine—with a view to inducing free circulation of the blood and lymph, and an equal distribution of the nerve forces. Special attention is given to the readjustment of any bones, muscles, or ligaments not in the normal position."

Osteopathy, therefore, we are justified in concluding from the foregoing and similar definitions, is a system of treating disease of the human body without drugs and by means of manipulation. The word "manipulation" certainly does not cover and include the practice of surgery in any form. Since, therefore, the term "osteopathy" does not include medicine and surgery within its content, we conclude that it was the legislative intent that a license to practice osteopathy does not carry with it the right to practice medicine and surgery, or either of them.

The appellant sought to show that the standard and accredited colleges of osteopathy include medicine and surgery as a part of their curricula; that the science or practice of osteopathy contemplates and comprehends the practice of medicine and surgery; that the colleges of osteopathy use the same textbooks on the practice of medicine and surgery that are used in the best recognized medical schools and devote as much time to the subject as is consumed in the best allopathic colleges in this country. The trial court refused to receive such evidence. In this it did not err.

The evident purpose of the proposed evidence was to show that graduates of recognized and accredited colleges of osteopathy now possess the requisite knowledge and skill to engage in the practice of medicine and surgery. The only question here is as to whether the applicant possessed the statutory qualifications; his actual qualifications were not in issue. The evidence was therefore irrelevant.

If it be true that graduates of colleges of osteopathy possess the requisite knowledge and skill to enable them to practice medicine and surgery, it would suggest the propriety of bringing the facts to the attention of the legislature with a view of obtaining legislative action granting to osteopathic physicians upon proper examination, the right to practice medicine and surgery as well as osteopathy.

The judgment must therefore be affirmed, and it is so ordered.—*Northwest Medicine.*

SAN FRANCISCO HOTELS

The San Francisco Session

The following list of hotels with location and prices is furnished by the Local Committee of Arrangements. Several hotels, as shown by the star, are already booked to capacity. All hotels are conveniently located except those in Oakland and Berkeley, which are about an hour from the Civic Auditorium.

The California Committee will be able to house all guests comfortably. In order that the most agreeable arrangements may be made, it is requested that from now on Fellows write directly to California Headquarters, 806 Balboa Building, for hotel reservations. Please give the date of expected arrival in all applications.

The lower prices quoted below refer to one person. The higher are for one to two persons in a room. Some hotels charge the same for one or two persons. All rooms have baths. Please make reservations early.

Leading Hotels in San Francisco (All European Plan)—Location and Rates

Name and Address	All Rooms With Bath
Alcazar, 326 O'Farrell	$ $ 3.00
Alexander, 352 Geary St.	2.50 — 4.00
Ambassador, Mason and Eddy	2.50 — 4.00
Antlers, 245 Powell St.	3.50 — 5.50
Argonaut, 44 Fourth St.	2.00 — 3.50
Baldwin, 321 Grant Ave.	3.00
Bellevue, Geary and Taylor Sts.	3.50 — 5.00
Beresford, 635 Sutter St.	2.50 — 5.00
Cadillac, 380 Eddy St.	2.00 — 2.50
Cartwright, 524 Sutter St.	2.50 — 4.00
Cecil (American plan), 545 Post St.	8.00 — 12.00
*Chancellor, 433 Powell St.	2.50 — 4.00
Clark, 217 Eddy St.	2.50 — 3.50
*Clift, Geary and Taylor Sts.	8.00
Colonial, 650 Bush St.	4.00 — 5.00
Columbia, 411 O'Farrell St.	2.00 — 2.50
Court, 205 Bush St.	3.00 — 4.00
Dalt, 34 Turk St.	2.50 — 3.50
*Fairmont, California and Mason Sts.	7.00 — 10.00
Federal, 1087 Market St.	2.50 — 3.50
Fielding, 386 Geary St.	2.50 — 3.50
Garfield, 354 O'Farrell St.	2.00 — 3.50
Garland, 505 O'Farrell St.	2.00 — 3.00
Grand, 57 Taylor St.	2.00 — 3.00
Herald, Eddy and Jones Sts.	2.00 — 3.50
Herbert's (men only), 151 Powell St.	2.00 — 3.00
Kensington, 580 Geary St.	2.00 — 3.00
Keystone, 54 Fourth St.	2.50 — 3.50
King George, 334 Mason St.	2.50 — 5.00
Lankershim, 55 Fifth St.	3.50
Larne, 210 Ellis St.	3.00 — 4.50
Manx, Powell and O'Farrell Sts.	4.00 — 5.00
Maryland, 490 Geary St.	2.00 — 3.50
Mentone, 387 Ellis St.	2.50 — 3.00
Normandie, 1499 Sutter St.	1.75 — 3.50
Paisley, 432 Geary St.	2.00 — 3.00
*Palace, Market and Montgomery Sts.	8.00 — 10.00
*Plaza, Post and Stockton Sts.	5.00 — 6.00
*Ramona, 174 Ellis St.	2.50 — 3.50
Regent, 563 Sutter St.	2.00 — 3.50
Richelieu, Geary and Van Ness Ave.	5.00
Robins, 711 Post St.	2.00 — 2.50
Somerton, 440 Geary St.	2.00 — 4.00
Spaulding, 240 O'Farrell St.	2.50 — 5.00
Stanford, 250 Kearny St.	1.00 — 2.00
State, 16 Turk St.	1.50 — 2.00
*St. Francis, Union Square	4.00 — 10.00
*Stewart, 353 Geary St.	3.50 — 7.00
Stratford, Powell and Geary Sts.	6.00

Sutter, Sutter and Kearney Sts.....		4.00
Travelers, 255 O'Farrell St.....	2.00 —	3.50
Terminal, 60 Market St.....	2.50 —	4.00
Turpin, 17 Powell St.....	3.00 —	3.50
Victoria, Bush and Stockton Sts.....	2.50 —	4.00
Washington, Grant and Bush Sts.....	2.50 —	4.00
Wellington, 610 Geary St.....	2.50 —	4.00
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Hotel Whitcotton, Berkeley, Calif....	3.00 —	5.00

* Booked to capacity.

AMERICAN DRUG MANUFACTURERS MEET

The Twelfth Annual Meeting of the American Drug Manufacturers' Association was held in New York City, April 16-19. Important matters relating to narcotic regulations, legislation, pharmaceutical progress, scientific research, medical chemicals and other subjects were discussed in the various sections.

A most successful meeting was closed with a banquet on April 19, at which the Hon. Royal S. Copeland, newly elected Senator from New York State, and the Hon. James A. Reed, Senator from Missouri, were guests of honor.

The officers elected for the ensuing year were: President, A. S. Burdick, President of The Abbott Laboratories, Chicago; First Vice-President, S. B. Penick, President of S. B. Penick & Co., New York; Second Vice-President, Willard Ohliger, President of Frederick Stearns & Co., Detroit; Third Vice-President, Ralph R. Patch, Vice-President of E. L. Patch & Co., Boston; Secretary A. Homer Smith, of Washington, D. C.; Treasurer, Franklin Black, Secretary of Charles Pfizer & Co., New York.

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J. B. Ross
J. W. Russell
G. L. Rulifson
Geo. W. Rezanka
Anthony Rud
J. D. Rowan
E. E. Reininger
Frank J. Resch
R. L. Reynolds
Nils Remmen
Sol Rosenblatt
L. W. Rosenbaum
T. E. Roberts
Harold H. Roberts
John A. Robison
H. A. Ramser
O. T. Roberg
E. Ries
C. F. Sawyer
L. C. Schulze
M. J. Sullivan
A. W. Stillians
V. L. Sheets
Alva L. Sawyer
I. F. Stein
Chas. Segal
Otto L. Schmidt
Charles E. Scharf
Edward F. Slavik
Philo F. Snyder
Sylvia A. Sciarretta
W. F. Scott
W. G. Stearns
Joseph Semerak
Vesper Shaffer
C. B. Semerak
Robert Sonnenschein
Andra L. Stapler
C. O. Schenider
E. S. Stewart
Carl G. Swenson
H. J. Stewart
Charles P. Schell
V. A. Simpkus
Arthur S. Sandler
Grant W. Sill
A. M. Stobe
John J. Sprafka
Wm. J. Siegler
Frank Smithies
John J. Stoll
A. C. Strunk
Carl F. Steinhoff
F. H. Steinhoff
H. J. Smejkal
Chas. L. Schmidt
F. E. Simpson
A. M. Shaw
Elmer E. Simpson
Chas. A. Stevens
A. W. Stillians
L. Ernest Schwarz
C. K. Stulik
M. J. Seifert
Hugh R. Schofield
Bertram W. Sippy
C. Pruyn Stringfield
F. S. Selby
R. C. Steffen
Samuel Stein
Charles E. Sceleth
A. B. Stewart
Samuel Salinger
F. H. Schroeder
A. W. Seidel
B. D. Satek
H. Schmitz
A. F. Stevenson
C. E. Stanbury
Charles Schott
J. A. Stough
James W. Skebelsky
John W. Stanton
H. J. Stewart
Anna H. M. Sharpe
I. Trostler
E. D. Tallman
F. P. Thompson
E. E. Tansey
John W. Tope
John J. Theobald
G. D. Theobald
H. M. Thometz
Frank F. Trombly
W. M. Thomas
Geo. F. Thompson
Max Thorek
L. L. Turner
H. Tetler
F. D. Vreeland
W. VanHook
B. L. Vilna
Walter Verity
R. Von der Heydt
S. A. Waterman
D. H. Wherritt
S. S. Winner
S. L. Weber
Joseph A. Waska
Will Walter
J. H. Walsh
E. W. Westland
John A. Wesener
Charles Windmueller
H. L. Wallin
H. A. Ware
B. E. Walpert
M. S. Wien
J. T. Woof
Theo. B. Wood
G. V. Wyland
Edward Wrightsman
A. H. Waterman
T. G. Wallin
Geo. W. Webster
A. A. Whamond
H. Woehlck
E. Weber
C. J. Whalen
K. N. Wakeberg
F. F. Wisniewski
T. M. Wiersen
T. J. Williams
H. J. Way
J. C. Williams
F. G. Whamond
C. F. Yerger
A. Yuska
T. Z. Xelowski
H. Zaczeck
O. Zelezny
Lucius H. Zeuch
Joseph Zabokrtsky

The proposed campaign cannot be prosecuted without funds; it must be supported by popular subscription. It is hoped that every doctor will subscribe to this worthy cause. Serious disease diverted from the incompetent will result in the saving of thousands of lives and will prevent much permanent invalidism.

This campaign will achieve two great objectives: A gradual, but ultimate restoration of the medical profession to its merited place in the public sympathy and confidence and the inestimable benefits to humanity through the consequent prevention of disease and the preservation of life.

For the convenience of those who have mislaid their letter of Appeal from the State Society, we hereby reproduce the pledge card:

Please sign and mail to the Illinois State Medical Society.

To the Officers of the Illinois State Medical Society and Members of the Council:

"I am in accord with the proposed newspaper educational campaign in the press of Illinois, unanimously adopted by the House of Delegates of the State Society at the 1922 meeting of the plan recommended by the Council of the Society, and as evidence of my desire to co-operate with the Officers of the Council and of the State Society, I hereby enclose my check for $..... to aid in defraying the expenses thereof:

Make Checks Payable to the Illinois State Medical Society.

Name.....M. D.
Street .....
City .....County .....

"Sign the above pledge card, make out a check payable to the Illinois State Medical Society and mail both in an envelope as follows:

From .....

ILLINOIS STATE MEDICAL SOCIETY,
c/o Cashier, Sheridan Trust & Savings Bank,
4738 Broadway,
Chicago, Illinois."

Lay Publicity Committee, 25 E. Washington St.

Correspondence

SHEPPARD-TOWNER

Silvis, Ill., May 11, 1923.

To the Editor:

Illinois occupies the pivotal position in the Federal Maternalism proposal. An Illinois rejection of the Sheppard-Towner Act would end its popularity almost at once, while an acceptance by the present General Assembly would loosen a flood of Federal fifty-fifty proposals that would turn the face of Robert Morris to the north wall of his grave.

In all legislation of this type five states bear the brunt of expense for the entire country. The legislatures of New York and Massachusetts have declined to admit that they can prosper under such a burden. These five states, with seven others, the twelve bearing more than 95 per cent. of income taxation and the main burden of property taxation, have no protection other than an appeal to the mercy of the remaining thirty-six state legislatures.

The Texas A. M. A. delegate who stated in a discussion of the Sheppard-Towner Act that Texas procured two dollars for every one dollar from every fifty-fifty Federal aid proposal which could be enacted and who inelegantly added that they proposed to milk that plan until it was dry, stated a proposition which can bankrupt those twelve of our United States. That a legislator should advance the interests of his state is proper, but that the legislatures of thirty-six states would, after deliberate understanding, work fundamental hardship upon twelve sister states is beyond belief.

The Maternity Act is merely one of a type. It happens that those practitioners of medicine who see patients at home or in the small hospital are qualified, in this instance, to give expert advice, and it happens that these men know the futile and inane provisions of the Sheppard-Towner Act, but that they, on a professional plea, should influence National or State legislation is not to be expected unless they will go somewhat out of their way and explain to their Assemblymen the truth that maternity care is largely a matter of meeting the unexpected halfway and working through. You and I know that the only general teaching which can possibly be put out is the teaching of general hygiene and nothing more; but assemblymen or welfare organizations have no way of knowing that. I have come to feel that if ever it seems reasonably certain how a given patient will progress in pregnancy or labor then it is time to guard for she is probably paving the way for something unexpected. E. M. Sala worded it in a fashion that has remained with me for years: "The more I know, the less I am sure of." And the unmerciful egotism which prompts some people to want to shout from the housetops things which they cannot possibly be sure of, always calls that phrase to mind.

I believe that nearly ninety per cent. of our assemblymen would drop it like it was hot if their own physicians at home told them the real dangers, even at the risk of temporarily offending the little bunch of uplifters who have been "sold" by the three years of propaganda. So far as political play goes there are plenty of other fields they would prefer if they knew the real harm of this one for women and children.

As to the Federal aid, I am convinced that if Illinois and possibly Pennsylvania should stand with New York and Massachusetts on this proposal, no thirty-six states could be found so blinded to the general welfare as to kill the goose that laid the golden egg. Those states which would benefit financially would probably not insist. That is why I say that Illinois is in the pivotal position. If the present legislature rejects or postpones action the thing will die down and will expire at the end of its five-year period which is already nearly half gone. Money for propaganda purposes tightens up after the main effort has been made. In that case it would not be heard of again for, all through the country, a very deep reaction has developed in the last eight months against the looseness and confusion which always seem to follow the tensity of wars. Except in interstate matters the fifty-fifty plan of finance does dodge a Constitutional prohibition by an attempt to bribe states and it has developed a resentment which is real.

A little postponement is all that need be asked of the present Assembly and the voters will take care that it does not come up again.

Sincerely,

WM. D. CHAPMAN.

Original Articles

PRESIDENT'S ADDRESS.*

E. P. Sloan, M. D.
BLOOMINGTON, ILL.

To the Members of the Illinois State Medical Society:—The 73rd year of the Illinois State Medical Society has passed into history.

In many ways it has been a most successful year. The local societies are in better condition than at any previous time due, in great measure, to the work of your councilors.

There is a general harmony among our members; a spirit of loyalty and solidarity for mutual betterment is evident in all departments of our work. The Physicians Fellowship Clubs are an indication of the growing co-operative spirit in this direction.

A better understanding and feeling have developed between the State Department of Health and our Society. Mutual co-operation will work to the betterment of both and to the welfare of the people of our State.

The State Department of Registration has been investigated and is in process of a long-needed renovation: We wish to express appreciation of the efforts of many of our members in this work, and especially of the loyal and efficient accomplishments of our president-elect, Dr. Taylor, in this particular field.

Among the impulses that carry us forward, none is patent for progress as the yearning for individual self-expression, the desire for creation of something. Perhaps the greatest human happiness is consciousness of worthy personal achievement. Here lies the great urge of the constructive instinct of mankind. But it can only thrive in a society where the individual has liberty and stimulation to achievement. Nor does the community progress except through its participation in these multitudes of personal achievements.

Furthermore, the maintenance of productivity and the advancement of general standards of scientific, professional, and spiritual life depend upon the ever-renewed supply, from the mass of those who can rise to leadership.

Our social, economic, intellectual and scientific progress depends upon preservation of the individual liberty of the members of our profession.

This liberty is being threatened by State Medicine, Government subsidies, pernicious legislation, school propaganda, cultism and many other such dangers, all of which are instituted and fostered by an increasingly large class of fanatics, mental abnormals, moron notoriety seekers, emotional perverts, and many laymen who are perhaps normal, but who without any special or scientific knowledge deem themselves capable of judging of medical matters and proceed to constitute themselves judge, jury and special executioner.

Too much credit cannot be given our editor, Dr. Whalen, who has provided us with the greatest State Medical Journal ever issued. It contains more than half of all the worthwhile literature in this field that is published, and most of it is written by Dr. Whalen himself. Dr. Edward Ochsner, our incoming president, has won our earnest gratitude by his capable help in this field.

We can be of practical help to the Journal by purchasing, when possible, instruments and other supplies from the dealers who advertise in the Journal. Especially can hospitals and hospital staffs assist in this way.

The Legislative Committee, after an enormous amount of work at great personal sacrifice, have protected our interests from vicious legislation and prepared a bill for a new medical practice act and followed it through trying and tiresome weeks in the Legislature with but little help from a discouragingly small number of the profession. Many of us seem to have toward the protection of the welfare of our profession the attitude of an excursionist toward the running of the train that carries him. As the excursionist relies upon the engineer, the Doctor relies upon the legislative committee, refusing to interest himself or help, even when the members of the legislative committee frantically appeal to him for help.

We have long realized that we were without the necessary organization and resources to cope with either the existing apathy or the seductive teachings of false doctrines whose alluring appeals are spread broadcast through extravagant and sensational articles. The difficulties of the situation have long been apparent, and unsuccessful efforts made to find a way out. A way has now been found, it is believed, through the lay educational movement.

If you will heartily support this activity of your council, and your members will generally contribute promptly their ten-dollar checks, the

*Delivered at the 73d annual meeting of the Illinois State Medical Society, at Decatur, May 16, 1923.

work of this new and important committee will be made much easier, and much more effective. I feel sure that this support will be forthcoming cheerfully and enthusiastically.

The passing of our beloved friend and confrere, Dr. C. W. Lillie, ex-president and for many years a councilor in our Society, has saddened many of us. He was not only a loyal friend of our State Society, but a warm personal friend to many of its members and his absence today causes us to pause in grateful remembrance for his years of devoted interest.

Among the happiest memories of the past year are those of new friendships gained, and of old friendships strengthened. May the coming year bring each of you richer blessings in friends, health and professional achievement, based upon an honest development and service.

I want to call to your attention a subject that has too long been ignored and neglected.

It furnishes proof to all who read the newspapers that the experts of our profession always disagree. It furnished copy for humorists and story tellers. It day by day suggests to every lawyer and judge that we are never agreed, therefore, not worthy of confidence. It furnishes evidence that cannot be refuted for everyone who desires to criticise our honesty and our integrity. It clogs the wheels of justice, prevents the courts from using logically and effectively one of the most valuable means in many cases of arriving at facts.

It is of most vital importance to many defendents and often to the cause of justice. It directly concerns only a few physicians, but indirectly all of us, for it is the cause of widespread lack of confidence in the character of ourselves. As is deplored by lawyers, judges and every thinking member of our profession. It is the result of laws and customs that have too long remained unchanged. I refer to:

The Medical Expert Witness Situation

According to Wharton, the great legal authority, "the distinction between expert witnesses and ordinary witnesses is this: the non-expert witness testifies to conclusions which may be verified by the adjudicating tribunal; the expert gives the conclusions which cannot be so verified. The non-expert gives the results of a process of reasoning which can be determined only by special scientists." (1 Wharton on Evidence, Section 434.)

And again, "Where conclusions depend upon facts whose evidential weight can only be determined by those familiar with a particular specialty, then these conclusions must be given by experts in such specialty." (2 Ibid., Sec. 437.)

In Europe. According to authorities upon medical jurisprudence, it is the function of the expert witness to reason about facts, to explain their connection with one another, to draw conclusions and inferences from them, and to thus perform part of the duty usually devolving upon the court or jury. His position, therefore, should be essentially judicial. In some European countries, notably France and Germany, such is the case. The expert is a part of the judicial system. He is an officer of the Court and treated as such. Many men such as Dr. Casper in Germany, and Fordere and Pinnell in France, have acquired high positions in the public estimation and in that of the courts. They are free from partisan bias, possessed of great judgment, a judicial mind, scientific experience and knowledge, and their expert opinions upon the questions submitted to them occupy a position like that of judicial opinions in weight and decisiveness. The judicial mind and unbiased judgment of these men were to their advantage as medical expert witnesses under such conditions.

In America. The same qualifications would not make Caspar and Pinnell sought after in this country. In this country the medical expert witness is chosen by the partisan lawyer, not for his judicial mind and his correct judgment upon the point at issue, nor for his great skill and discernment, but rather for the partisan service that he can render by giving such testimony as will influence the jury.

In this country the testimony of a medical expert witness is not a judicial opinion. He has no power of decision. The entire court procedure is founded upon the assumption that after hearing the medical experts employed upon both sides of the case the jury will be enlightened enough upon the pertinent scientific and the technical matters to make a decision themselves. At any rate, they are supposed, from the appearance, deportment, and testimony of the expert witness, to decide as to whether his testimony or that of the expert witness for the opposing side is the truth.

I think it will be conceded that expert witnesses in the country are of two classes, honest

and dishonest. Of the dishonest ones we have nothing to say. We wish to discuss the honorable, upright, medical practitioner who is employed by one side in the controversy; who is not an officer of the court, but who must necessarily approach the question from the partisan angle. At times it is essential for him to testify as to whether or not a person was angry, or intoxicated; whether or not the mental state, while under observation or at some previous time, was that of a sane or insane person; whether or not the subject is suffering from some perhaps obscure physical ailment causing disability; whether or not pregnancy is present, and sometimes whether or not such pregnancy, disability or even death, is due to the action of another.

The Conditions Necessary. It is obvious that a correct opinion upon these delicate and obscure questions can be formed only after thorough examination and complete investigation and after every phase and every fact of the situation is known and considered by a competent, unbiased, mind. It is conceded by all medical men that a correct opinion, or in medical terms, a diagnosis, of physical and mental states, cannot be made if the diagnostician approaches the subject or the patient with a prejudiced mind. Every point of the investigation must be made, the examination of the patient complete, and all discoverable facts of every kind brought together and considered before the diagnostician can make a diagnosis. Then further investigation may be made in an attempt to either prove or disprove his conclusion. His interpretation of every fact brought up for consideration must be that of an unprejudiced mind if his final diagnosis is to be correct. Not only is this necessary, but the surrounding circumstances must be such as to permit the diagnostician's mind and judgment to operate untrammeled. A diagnostician can always operate with greater reliability when he has the patient in the hospital, clinic, or same environment in which he usually does his work. The field of medical diagnosis is so large and extensive that it is usually necessary for a complete diagnosis that the diagnostician have some assistance from nurses, laboratory workers, other physicians, or other assistants or observers. It is needless to state that any diagnostician can make a diagnosis with more certainty when aided by his regular assistants. Only by having the patient in a favorable environment and under conditions that are favorable to good work, and with sufficient assistance, can any diagnostician whose sincere object is to arrive at the actual facts, make a diagnosis and give an opinion in regard to mental and physical states in obscure or disputed cases that is worthy of confidence or that should be given a place in any proper legal proceeding. *Without a correct diagnosis the medical expert is a false witness.*

Conditions As They Are. But it is unfortunately true that under present conditions in American courts, these conditions of insuring correct and impartial judgments by the medical expert witness are sadly lacking. Approaching the subject from the partisan standpoint, with a necessarily biased mind, as the medical expert witness must do, precludes the formation of a correct, judicial opinion.

Medical experts should be court officers, appointed by the courts and permitted to make use of every means that is employed in their private or hospital practice to assist them in forming correct diagnosis or opinions. In case the experts disagree, the courts should appoint other experts, for it is preposterous for the courts to ask uninformed jurymen to judge correctly when honest, well-trained specialists cannot agree. But until the courts of this country adopt some logical and reasonable means of securing the proper and necessary conditions for the formation of unprejudiced and scientific opinions, the work of the medical expert witness must be severely hampered and the value of his work unjustly limited.

This is our responsibility. The lawyers and judges will welcome improved methods of utilizing real experts. They are not satisfied with present conditions. Shall we unitedly raise our voices to the end that new methods may enable our experts to further the cause of justice, not clog its wheels, and that the Medical Expert may be the means of our profession regaining the confidence of the people in the wisdom, honesty and integrity of its members?

ADDRESS OF ACCEPTANCE

EDWARD H. OCHSNER, M. D.
CHICAGO

I see before me many men who have attended innumerable installation exercises and I shall not make any lengthy address, but instead ask you to harken back to the flights of oratory which you have heard on previous similar occasions

and while you are thus pleasantly occupied I wish to make a few simple statements. I will try to uphold to the best of my ability the traditions of the past and at the same time maintain an open mind for new things as they may present themselves. I will try in the future as in the past to work for the welfare of the whole profession, to help lighten the burden of the most humble member, to encourage the leaders in every worthy undertaking and to swat in season and out of season those pestiferous uplifters whose principal purpose in life seems to be to pauperize the public.

It was hoped by all that this might be a time for felicitation and for rejoicing in that we might be able to report the passage of a medical practice act with real teeth in it and also an act which would prevent scandals in the Department of Registration and Education such as have occurred in the recent past, in order that the health and lives of the people of Illinois might be better safeguarded. The organized profession has also made a valiant fight to prevent acceptance of the provisions of the Sheppard-Towner Bill. Your acting officers, your retiring president, your secretary, your editor and the members of your legislative committee and many volunteers, have made a determined fight at great personal sacrifice to bring about these desired results. Their failure so far has been partly due to the fact that as usual the medical profession has not presented a united and determined front. We can never hope to make ourselves felt to the degree we ought to until we will learn to thrash out our differences within our own organization and then abide by the will of the majority. The medical profession is suffering from the same difficulties that our nation has always suffered in its periods of greatest trouble. Medical men as well as other citizens can be divided into three classes: a comparatively large group headed by a few indomitable spirits who work hard for the welfare of the whole, an equally large group who may be termed as slackers, and a comparatively small group for whom we can scarcely find a suitable name; reactionaries, soreheads, tories, are hardly strong enough terms. The term "traitors" may be a little too strong. However, so long as we have the last two classes in our midst progress for the medical profession is going to be slow and difficult. May I urge you, the workers, to go home, stir up and encourage the slackers to greater effort, and administer a few private lessons in good citizenship, patriotism and loyalty to our profession to the members of the last mentioned group, so that if they will not help the good causes along they will at least be compelled to desist in their acts of sabotage. If each and everyone of us will do this even at this late day, the causes for which we stand may not be lost and right may yet triumph.

SURGICAL JUDGMENT*

JOHN H. GIBBON, M. D.
PHILADELPHIA, PENNA.

To an audience made up of representatives of all the different departments of medicine, it seems hardly fair to present a purely surgical paper, which would appeal to but a small percentage of the listeners; and I have, therefore, determined to attempt to give you what would seem to me should be the characteristics of a surgeon of today and discuss his relation to the rest of the body medical.

No attempt will be made to indicate to you the great advances made in surgery during the past fifty years and its consequently greatly increased field. Those of you who graduated thirty years ago have witnessed the steady growth of the surgical domain and those of you who received your diplomas more recently are familiar with the history of it. With this change in the field of his activities, there must have been a change in the surgeon himself, and the surgeon of today and tomorrow must come to his work with a far wider knowledge and training than his predecessor of a generation ago. Formerly a practical knowledge of anatomy, a poorer one of pathology and a certain facility with his hands, together with a fair judgment as to when and how to use them, were considered sufficient to enable one to style himself a surgeon. No such equipment today would inspire sufficient confidence, even in the laity, to enable one to obtain recognition.

Surgery, like all other specialties in medicine, is best practiced by the man who has had the broadest kind of foundation in the basic sciences of anatomy, biology, physiology, chemistry and pathology, and who is familiar with the work

*Read before the Tri-State District Medical Association, at Peoria, Ill., Oct. 31, 1922.

being done in other fields of medicine. It is of course true, and it goes without saying, that he must possess dexterity and have developed a proper surgical technique, but these are the essentials most easily acquired.

"Surgical judgment" is an expression familiar to you all and is considered by the wise the highest compliment that can be paid a surgeon. It is supposed by some that this comes with years, that it attaches itself almost unconsciously to the man doing surgery constantly over a long period and that it is not a thing which can be taught or learned early. Let us entertain no such erroneous idea of this finest of qualities in a surgeon. This judgment does not rest on the number of operations performed or the years during which they have been done, but rather on the knowledge one has of normal physiological processes, of pathology and of general medicine. Experience, it is true, is the greatest of all teachers, but what is experience? It certainly is not simply time spent in an occupation or the amount of product turned out in a certain number of years. It is, I take it, the ability to observe, to estimate at their proper value the things observed, to consider them in relation to established laws and to remember them. It is also important to develop a philosophical mind and to pay constant attention to medical literature. The surgeon, who is so busy operating that he has not time for the proper pre- and post-operative study of his cases and who is too busy to read and to see the work of others, is a man of limited experience, however occupied he may be in the actual performance of operations. The man who has removed the greatest number of colons may be the best man one could have to remove his colon, but he might, if he does not possess the kind of surgical judgment we have in mind, at the same time be the worst man one could choose to determine whether his colon should be removed. This type of illustration might be applied to any field of surgical activity, I have only taken the colon as it has been much in the professional and lay mind in recent years. My own judgment would be that the removal of the colon to cure constipation is comparable to the removal of the ovaries to cure dysmenorrhea. How the fad of oophorectomy to cure all female ills survived so long is hard to understand. One can imagine the success of an attempt to popularize the analogous operation in the male! It is true that the normal testis has recently been removed, but only to be transplanted into a new and sterile field where it is hoped it would retain its fertility and give its host a new virility. But this is a long cry from the removal of both testes to cure backache.

The modern surgeon is exposed to temptations that he of fifty years ago did not know for now-a-days with a fair technique and an aseptic habit nearly any operation can be done without fear of a fatal infection. It is this degree of safety which exposes us to the danger of falling into the habit of doing unnecessary operations and developing a fad for doing a particular operation in the absence of proper indications, just because we do it well and with no mortality. A peculiar facility in the performance of an operation puts a surgeon too often in the category of the proverbial doctor who was "hell on fits."

The mere development then of the ability to perform certain operations with a fair degree of safety and the constant performance of them does not alone constitute experience, nor does it possess one of surgical judgment. To the ability to do the operation must be attached the knowledge which permits one to determine the indications for it in the individual case.

It is far more important to teach the student of medicine differential diagnosis, the indications for and against operation and to inculcate in him the diagnostic habit rather than to teach him the steps of operative procedures, because he naturally practices what he is taught. This admonition does not apply alone to those engaged regularly in teaching students, but to everyone having younger men working under him as internes and assistants; every such person is a teacher and is often the one who is listened to and observed with much more interest and attention than the man occupying a "teaching position." Every hospital surgeon should consider himself a disseminator of surgical knowledge, not a simple demonstrator of surgical technique. Many a young man's promising future in surgery has been thwarted by the careless methods employed by the man under whom he has served as an interne or an assistant. These young men should be taught surgical judg-

ment and should be encouraged to observe and record their observations, to exercise in every case under their care the knowledge which they are supposed to possess. If this is not done they naturally in most instances become careless automatons doing operations perhaps well, but regardless of conditions, taking out appendices to cure duodenal ulcer, doing gastro-enterostomy to cure the gastric crises of tabes, removing hemorrhoids for cancer of the rectum, performing Cesarean sections to save labor pains, removing colons to cure neurasthesia, plating fractures that need no plating, etc., etc. Such surgery and such surgeons do nothing to advance even the art, let alone the science, and do much to discredit real surgery.

The modern surgeon must be a diagnostican. The late H. C. Wood said the difference between a surgeon and a physician was that the one worked with his hands and the other with his brains. If this were ever true, it is not true today and it must not be true tomorrow. Medicine can only be advanced by the working together of the internist, the surgeon, the chemist, the pathologist, the physiologist and the roentgenologist, and each must work with his brains as well as with his hands; each in weighing facts and drawing conclusions must use all the knowledge he has and can obtain from others.

A diagnostic habit and ability must be early established and regularly enlarged by the would-be surgeon of today. Most of the mistakes we surgeons make result not from a lack of knowledge, but from a failure to use it. How many of us have not looked back with shame and chagrin at the removal of a primary malignant growth in the presence of a metastasis, the existence of which a careful examination or an x-ray study would have revealed. Or how easy it is to fall into the habit of doing "exploratory operations" to find out what a little study or the exercise of a little knowledge would have shown us.

The modern surgeon must not enlarge, but rather curtail his list of emergency operations, that is those done without a careful study of history, of signs and symptoms. A diagnosis should be made if possible and a relative diagnosis, if a positive one is impossible, and the reasons for it given. Hemorrhage and obstruction of the air passages stand nearly alone as indications for immediate operation. Never to worry one's mind about the diagnosis but simply to "open and see" often means unnecessary operations and does nothing to develop one's surgical judgment and enlarge one's experience. To make a wrong diagnosis is better than to make no diagnosis at all. If a young surgeon would write down his diagnosis, his basis for it and his reasons for operating in his first two hundred cases, and then his findings and results, he would possess more surgical judgment and experience and be a better surgeon than the man possessed of the same knowledge and same operative skill, who performed a thousand operations without this exercise of his brains.

Mark Twain said if one did not open his letters until two weeks after their arrival, only one out of ten would require an answer; if one studies his cases before operating he will certainly operate upon fewer and he will greatly reduce his surgical errors. It is the inexperienced surgeon or occasional operator who takes risks, and yet he is the last one who should. The difference in the mortality rates of certain clinics is not due to unusual skill or to the selection of cases, but to careful study and preparation. The time to obviate post-operative complication is before the operation.

I believe a survey of the recent contributions to surgical literature from the hands of men of recognized ability will show distinctly a tendency toward the development of surgical judgment. A notable example is to be found in the surgery of the breast. The man who removes a breast in a young woman for a benign tumor is not saving her from a cancer death, but is doing an unnecessarily mutilating operation, when a simple one would have relieved the patient of her trouble. I should like in this connection to endorse and emphasize the following paragraph from a recent paper by Peck and White—(Annals of Surgery—June '22); "We have long believed that unnecessary mutilation by the performance of radical operations for these distinctly benign conditions was unwarranted, and speaks for lack of ability or confidence in diagnosis by the surgeon, rather than consideration for the future comfort and safety of the patient."

The removal of certain diseases from the cate-

gory of those requiring extensive, mutilating and dangerous operations and the putting of them in the class which can be cured by simple and safe methods represents real surgical advance. Take for example the so-called myeloid sarcomata of the long bones for which amputation was considered, until recent years, the proper treatment and compare this operation with the simple removal of the growth which recent study has shown to be quite sufficient, as the tumor is really not malignant. Again think of the amputations and the resections of joints in our civil war and then of their comparative rarity in the recent great war.

And I would cite one other recent example of surgical advance and the exercise of surgical judgment. Up to the time of the great war there had been developing for years a tendency to operate upon and plate most simple fractures, a pernicious tendency which it seemed nearly impossible to stem, but with the enormous experience afforded by the war it was easily shown that this method of treatment should be greatly curtailed and we passed back to the use of our brains and revived the mechanical and anatomical knowledge in the treatment of fractures which, for a time, many of us had lost in our craze to apply a plate. There are enough fractures requiring open reduction without operating on those which do not need it. I should like too to suggest in this connection that open reduction need not necessarily be followed by a plate or other device, and the surgeon must have the judgment to determine the necessity for this second step and the courage to avoid it, if deemed unnecessary.

Before a surgeon undertakes the operative treatment of fractures, he should have learned by experience and by reading what nature herself can do, if only given a little intelligent help; what she can do alone, as is shown in the rare instances of non-union in animals like the dog and the birds; and how she is apt to lay down on her job when the matter is taken entirely out of her hands by the absolute mathematical immobilization of the fragments by a plate. I should like to emphasize three things said by Doctor Dodd in his communication. First: that the plate is a cause of delayed union and sometimes of non-union, and his skiagrams illustrated this. Second: that plates should be removed when they have produced enough fixation to allow their removal without disturbance of the position; and third: the great importance of early motion of neighboring joints and muscles. We would all, who work in this field, do well to go back a generation in surgical literature and read Lucas Championiere and study his method of mobilization in the treatment of fractures. This field is one of the best in which to cultivate and develop surgical judgment.

The surgery of the future is not going to rest on further development of surgical technique or the invasion of new fields, but on an increased knowledge of disease, its causes and manifestations, and the men who are going to advance surgery are those who learn early in their careers to use their brains as well as their hands, and who make their brains direct their hands.

The day is passed, if it ever existed, when a surgeon must do a certain operation at the request or direction of another and the surgeon of today who operates for any other reason than that he believes the operation indicated, after a careful study of all the facts and evidence, or who operates on the judgment of another, becomes a menace to society, a disgrace to surgery and a man without the respect and confidence of those who are able to judge ability. A surgeon must be courageous enough not to fear the charge of timidity, when it is based on the exercise of surgical judgment.

Self satisfaction, which is always based on a lack of knowledge and experience, is a dangerous characteristic in a surgeon, especially a young one, for it usually means arrest of development. It is only dissatisfaction with one's accomplishments which stimulates him to effort. Self confidence in a surgeon is, however, an asset and does much to help him through difficult situations and to devise new methods.

In conclusion I would suggest that the surgeon who does an unnecessary or wrong operation should be obliged to look after the patient for the rest of his or her life and not be permitted to turn the patient over to the long suffering family physician. If this plan could be put into practice and if all surgeons studied their mistakes and their ultimate results, surgical judgment would be a common characteristic and surgery enormously advanced.

CERTAIN FACTORS TO BE CONSIDERED IN JUDGING THE EFFECTS OF PROHIBITION IN RELATION TO THE USE OF NARCOTICS*

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The history and record of the development of the present narcotic situation, if it were more widely known and appreciated and the scientific literature on the subject of narcotic addiction more widely known and recognized, would make any query as to alcohol prohibition laws having any effect upon the use of narcotic drugs unnecessary.

In my ten years of experience and contact with this subject in the capacities of state legislator, doctor, medical journal editor, and Congressman, I cannot recall of any reputable authority on this subject of narcotics and addiction making a statement to the effect that prohibition would or had increased or influenced the spread or consumption of narcotic drugs.

Indeed, every report or survey entitled to scientific credence and the foremost scientific authorities on this subject, either men of personal experience in clinical work or of study into its history and literature, have, I believe, emphatically declared that the coming of the prohibition amendment has had absolutely nothing to do with the development of the present narcotic drug situation and conditions.

Moreover, the actual elements and factors in the causation of existing narcotic conditions are so completely a matter of record and so incontrovertibly to be traced in that record, that it is absurd to look outside of the narcotic drug history and record of the past ten years to find the incontrovertible machinery of development of the present situation.

To one at all conversant with the history of the past twelve years, with its various promotions and experiments and publicity and propaganda in this matter of narcotics, the absurdity of the claim that prohibition has had any effect in the causation of existing narcotic conditions is apparent in the fact that *the present narcotic conditions have been developed by the same factors years before there was either a national prohibition, or serious talk of it.*

The first development and spread of smuggling and peddling came in New York State following sensational publicity and the enactment of the Boylan Law in 1914.

It is more than a coincidence that the sort of advertising and sensational publicity which has always preceded this type of legislation, has also always been followed by the development of underworld commerce and spread of addiction of non-therapeutic origin, among the youthful and curious.

The events of 1914 on a smaller scale in the State of New York, exactly follow the history of identical forces exerted since 1919, which is the period in which the present situation was developed.

The record of this is so voluminous that it is not necessary to do more than state the fact in this place and call attention to the fact that there was at that time no prohibition of alcohol, so that the crisis and beginning of smuggling and peddling and spread of addiction among the youthful could not have been attributed to the Eighteenth Amendment, which was not to exist for another six years.

In what is undoubtedly the most scientific and accurate analysis in the form of official report coming from a standing committee of any scientific organization, the Report of the Narcotic Committee in the American Public Health Association, rendered October, 1919, is stated,—

> We would emphasize the fact that cocaine, alcohol and other drugs of indulgence do not fall into this definition (of opiate addiction) and they and their problems of handling, treatment and control are entirely different and distinct from the matter of opiate addiction-disease.

(This report appeared in the *American Journal of Public Health*, January, 1920.)

Dr. Charles E. Terry, Executive of the Bureau on Narcotic Drug Research, of New York, stated before the hearings on the recent Porter Resolution, —

"I do not think there is any connection between prohibition and addiction."

In *American Medicine*, Special Narcotic Number, December, 1917, is contained a preliminary report by the Whitney New York State Joint Legislative Committee, which carried on for two

*Speech in Philadelphia, Pa., April, 1923.

years the only open and exhaustive investigation yet made on the subject of narcotics, and a remarkable clear analysis of the situation and its causes and development since the passage of anti-narcotic legislation in 1914.

No mention is made in either of these most reliable and authoritative statements as to any relation between alcohol and narcotic drugs.

The final report of the Whitney Committee, in 1918, confirmed the findings of its preliminary report.

In the *New York Herald,* November 22, 1920, is stated as follows,—

"Dr. Ernest S. Bishop, the well-known diagnostician, whose experience with alcoholics and drug addicts has made him an authority on the subject, says that there are more drug addicts today than ever before; and that there is more illicit drug traffic than ever before.

"However," says Dr. Bishop, *"this increase is not because of the enactment of the Eighteenth Amendment.* Prohibition has nothing whatever to do with it."

As Dr. Bishop is recognized as the best authority on the subjects today, this statement alone must be regarded as practically *ex cathedra* announcement.

I might go on and quote at great length from other authorities and reports to the same effect. It would be, however, redundant repetition of what is regarded among all qualified and informed persons as axiomatic fact.

The problems and facts of the effects and use of alcohol are utterly different and absolutely unrelated to the problems and facts of the opiate addicted.

They have no sociological, pathological, psychological, physiological, or clinical similarities,—and there is no basis for the statement that the indulger in the one would turn to the administration of the other, in the expectation of substitution effect or replacement of stimulation.

It is also doubful if there has been any real alcohol prohibition in effect, so that the necessity for any such hypothetical substitution has been absent. It is said to be far easier and much less expensive to obtain alcoholic liquor than it is to obtain narcotic drugs.

It is not enough to deny a proposition without furnishing evidence as to some of the facts concerned in the history and machinery of actual causation in the drug situation which it must be admitted has come to exist.

In an editorial in the *Medical Economist* of June, 1918, concerning the newly enacted Whitney Law and Commission in New York State, I predicted,—

"This law will prove a wise and efficient advance in the solution of the narcotic situation, *if it is wisely and efficiently administered.* If it is not so administered, there are the gravest possibilities of a repetition of the 'reign of terror' which followed upon and was the result of the ignorant and incompetent interpretation and administration of the first New York Narcotic Law, the original Boylan Law."

Concerning the fulfillment of my editorial prophecy, Judge Cornelius F. Collins, Chairman of the Narcotic Committee of the Judges of New York State since 1914, stated in a speech before the National Police Conference, and appearing in the *National Police Bulletin* of August 23, 1921:

We established a State Commission. It started to make regulations. The Board of Health persuaded them to make regulations and they placed restrictions around the doctors that made them stop practicing. My theory was followed out again that as soon as the doctors were stopped practicing medicine in this connection and stopped treating the addicts—then came the underworld peddlers and all the underworld terrors that we feared.

This, Judge Collins points out, in a letter to the *Medical Record,* October, 1921,—

is not due to failure of the statute, but to the enforcement of promulgated rules and regulations which were in some instances in their effect tantamount to repeal of the law and contrary to its intents and purposes.

The same explanation with elaborate speeches is contained in my own Congressional House Resolution No. 258, which has been endorsed at their last annual conventions by the American Medical Association, and the other important national scientific bodies, and must therefore be regarded as the official expression of medical and scientific opinion upon this subject.

(See *Congressional Record,* January 12, 1922, and July 18, 1922.)

A most significant warning and prediction of the present situation was presented to the Legislature of New York State, and came from the judges of New York State in the form of a telegram of protest against what was known as the Cotillo Bill, which in 1920 attempted the reenactment of the provision of the old Boylan Law

under which smuggling and peddling and spread of addiction had its first serious impetus.

The telegram of warning and protest I quote from as follows:

The bill referred to would utterly destroy the constructive work of five years, including two years intensive study by Joint Legislative Committee.

Forbidding doctors to prescribe would threaten public calamity.

The underworld and illicit traffic would find a new and appalling impetus and violations of the law both as to the narcotics and crimes vastly increased.

This prediction and warning came from the Judges Association of New York State in March, 1920.

It has been most obviously and calamitously fulfilled.

As I said before its fulfillment is discussed at length in my Congressional Speeches and Resolutions above referred to, and by endorsement of the scientific bodies now made practically the concensus of opinion of the scientific profession.

These above quoted and other expressions of warning and expositions of fulfillment are reinforced by recent declarations coming from the Assistant Attorney General of the United States, John W. H. Crim, from whom I quote his official utterances before the Committee on the Judiciary, January 23, 1923, and the Committee on Foreign Affairs, February 14, 1923. Speaking of narcotics and addition, he says in part:

It is a problem for which we have no foundation in penology today.

It is today very largely a pathological matter.

The law *has been directed* at preventing physicians from selling narcotics and by the same token has forced the addict into a criminal atmosphere to get them.

All of which has stimulated the trade and occupation of the smuggler.

The war is very much responsible for the stimulation of the narcotic traffic.

Many of these boys were over there in the trenches. They received narcotics in their treatment. They came back here as addicts. Among those who had been discharged from the Army, there are a great many.

I had a gentleman come in here yesterday, and his brother is an addict. It started in an Army Hospital.

This young man is searching around trying to find somebody who can tell him what to do, whether there is any hope or not.

We are in the dark until the medical profession tells us what is to be done.

I am absolutely at sea for the reason that fundamentally it is a pathological matter, and until the medical profession and the scientists tell us what to do in handling these people, we are not going to make much progress.

I feel that the present law regulates and reaches the better class of physicians. If anything, it has caused the more competent physicians to take the position that they would not administer narcotics, and has driven the addict ultimately into crime itself.

That occurs too frequently under the present law (or rather the present rules and regulations and interpretation of the law). That addict is gradually driven to the underworld, where you have not only the crime of buying and selling narcotics, but every other sort of crime, and there he buys his drug. In a little while he has no legitimate source of income whereby he can procure the drug at the prices, exhorbitant prices he is required to pay in the underworld. Then he goes to stealing, robbing, burglary or some other means to get funds to get this drug, or he buys a bottle of it and sells out a part of it so that he may get his drug in that way, and you drive that fellow right into prison.

You ask me what to do? I tell you frankly, I do not know. *It is a problem that the lawyer cannot answer until he has more reliable information from the medical profession.*

I want more investigation by the scientists on the drug addict. Now, as to what can be done with him and what ought to be done with him.

We have the depraved man and the degenerate, and it would be just as well to exterminate them, but if these people can be cured, if these people can be prevented from becoming criminals, if they are merely sick people—as a very large number of scientists believe—the way to treat a sick man is not by criminal law, and we take that addict, put him in prison, keep him there during his sentence, let him out, and too frequently he is back again in a short time; and ofttimes when he first went to his physician, he was a man of high ideals and high character.

Assistant Attorney General Grim has tersely and accurately re-stated the contentions of the medical profession (except for a small group), as shown in many places and in my own speeches and resolutions, now endorsed by the medical men and organizations of this country.

In conclusion Mr. Crim says:

I do not want to be dogmatic. I do not want you to feel, Mr. Congressman, that I am certain. I think the data we have been working on, the literature we have been working on, is data that may be found later to be the wrong theory.

The concluding statement of Mr. Crim as to the error of the data upon which the law has been interpreted and administrated for the past

three or four years is the crux of the narcotic drug situation today.

For adopting false data and ignoring scientific literature and experience and record and facts, the administrators of the law in the past four years are not, however, to be entirely blamed.

They have been misled as has a large part of the general public by insistent promotion and propaganda and publicity which has advertised the sensational or the misleading generality deduced or manufactured by incompetent groups from non-representative cases.

They have been misled by meaningless words and phrases and slogans, coming from inexperienced and unqualified persons who have paid no attention, apparently, to the mass of reliable experience and literature and record, easily available.

This has been gone into so fully in many places, including my own speeches and writing, that I shall not take up space for it here. I will merely say that *if there had been one-tenth as much publicity for facts as there has been for incidental spectacular morbid details and for catchy slogans and for false panaceas, there would be no drug problem today.*

In other words nine-tenths of the available,—and practically all of the useful information has been suppressed and kept from administrative recognition for the past three or four years.

The solution of the narcotic drug problem today lies in the encouragement and dissemination and common sense application of all information and experience,—just as,—

The existence of the narcotic drug situation today lies in the suppression of nine-tenths of the available information and experience.

As, Mr. Crim has said, the law *"has been directed* towards the elimination of reliable medical and scientific work and progress and education in the subject of narcotic drugs and narcotic drug addition.

At the close of the two years New York Joint Legislative Investigation, its Chairman, Senator George H. Whitney, summed up the findings of the investigation as to addiction in the following words:

The cause of which is ignorance,—the results of which are misery,—the remedy for which is education.

In the neglect of these findings of the only open and complete investigation ever made into this subject,—and in the substitution therefore of what the Legislative Report of the Medical Society of the State of New York, at its annual convention in 1921, designated as "formularizations" prepared *"ad hoc* by ten men in the medical profession and a couple of lawyers," with no qualifications except ignorance upon the subject under consideration, and as has been shown, their appointment to various interlocking committees lies the answer to the suppression of information for which the Assistant Attorney General and all other honest inquirers for truth are now seeking.

In the place of consideration of and attention to the real problem of narcotics and addiction has come a few broadcasted and propagandized "formularizations" incompetent in origin, misleading in substance and prestentation, and useless and calamitous in application.

Among other things the idea that narcotics (opiate) addicts in general are degenerate and criminal is a promoted fallacy of great viciousness.

Also such misleading or unfounded phrases as "ambulatory treatment," "hospitalization," "satisfaction of craving" and the handful of other phrases which have been cleverly used as propagandic slogans and false or misleading definitions, distracting from urgently needed real work, real education and real issues, must be in the light of available medical and sociological facts, relegated to the history of a promoting and hysterical past.

We must eliminate the promoters of spurious or unworthy specific so-called and so-advertised "cures" and "panaceas",—drive out the political and commercial exploiters and encourage the physician, medical workers and students, to once more take up the study and treatment of narcotic addiction.

The most reliable estimates from many sources (contrary to some of the propagandized statistics from certain sources) place the criminal or degenerate type of addicts as from twenty to ten per cent of the total so afflicted. This is about the same percentage of criminal or degenerated individuals as would be found in all other medical conditions.

In other words, the real practical problem of the narcotic drug situation,—*the problem which*

is absolutely neglected today,—is the immediate humane and scientific medical care and so far as possible, cure of from eighty to ninety per cent of those afflicted with opiate addiction,—people who are decent and respected in their communities.

Ignore this and drive out the available humane and scientific medical care and you create a condition which has repeatedly shown as inevitable effect, in every survey, report or investigation of reliability and honesty and competency,—and finally by the United States Assistant Attorney General himself.

You create and force patrons and customers for the spurious advertised "remedies" and "cures" and for the criminal vendors of the underworld,—and you increase smuggling and peddling and the corruption of officials,—by creating necessity which is immediately capitalized in immensely profitable illegitimate enterprise and exploitation of the neglected needs of suffering humanity.

This is the real basis for the present situation.

There are two fundamental issues, irrespective of all the quibbles and sensational publicity promotion of morbidness and other manifestations of these periodic outbreaks which always end in creating the *drug situation,*—two fundamental issues to which sooner or later there has always been forced a return of consideration;

1. How can we best take care of the narcotic addicts we have?
2. How can we best prevent the making of more addicts?

The traffic whose commercial extension is making more addicts today, was created by the closure or obstruction of legitimate medical channels of study and treatment and education and, as Mr. Crim has pointed out, by the driving away of the family doctor from the care of the addicted individual.

Wise and sane administration and interpretation of laws aided by truly educational publicity, has at times succeeded in interrupting and checking this underworld traffic by which the non-therapeutic addiction patient is created.

A certain amount of unavoidable opiate addiction through necessarily prolonged opiate medication, is conceded by all reliable authorities and students to be inevitable.

(The case of the returned soldier addicted during treatment in a hospital in France, is an illustration of this,) as are also some cases of cancer, operative conditions and prolonged medical emergencies in civil life and the ordinary practice of medicine.

Nobody but a fool, a promoter, an ignoramus, or a medical or political quack would make any statement to the contrary.

There are conditions and facts which sooner or later we have to meet, and one of them is that the continued administration of an opiate drug, under whatever conditions, invariably results in the formation of a physical condition which can be met or cured or cared for by neither rules and regulations, sensational publicity, exhortation or any other of the repeatedly offered and promoted panaceas.

The sensational publicity and some of the unjustified restrictions, periodically given to, or based upon the morbid aspects of the ten to twenty per cent of addicted individuals, who are admittedly criminal or defective individuals has served only to create hysteria and panic,—to drive out medical and scientific progress and education and honest work and to advertise and renew and enlarge the business of the underworld exploiter and the corrupt official and the quack.

Cut out the profit for the underworld and criminal traffic and you make no new addicts through what is today the most prolific machinery of their creation. Where there is no profit, there is no market for the smuggler and the peddler, and no incentive for them to extend their business.

Encourage honest attention by the family physician to the needs of the innocent afflicted, made so by unavoidable or necessary medication or by the ignorance or suppression of education which promoted sensationalism has caused and made to persist.

Thoroughly and relentlessly investigate the acts concerning all "institutions" or so-called institutions, which are treating these patients, and make their treatment conform to the same standards of humanity and medical competency that are demanded and recognized in the treatment of any other diseases.

The history of institutional treatment in a majority of cases has been shown by every com-

petent investigation to be incompetent and abortive of results.

Open up the avenues of reliable information and progress and education for the medical profession and stop their being controlled and terrorized by the incompetent or the dishonest.

If you do these things (as has been repeatedly shown) you take out of the clutches of the underworld and the ignorant or exploiting official, eighty to ninety per cent of its possible patronage and all of its profit.

For its real profit does not come from the much advertised ten to twenty per cent criminal type of individual addicted, but from the neglected honest and self-supporting person addicted whose family physician has been forced to abandon them and they forced into channels of exploitation and extortion.

Let the police take care of the ten to twenty per cent criminal or degenerate addicts. Let the medical profession,—the family physician, the provenly competent hospitals and scientific institutions take care of the honest addicted persons on the same basis and in the same way as they would any class of honest afflicted.

Get the only profession that can solve medical problems and care for the sick back into work in its legitimate and proper sphere without danger of oppressive administrative interference and ignorant or instigated over regulation.

If you do these things you at once eliminate the profit from illegitimate channels of charlatan exploitation and solve the problem of smuggling and peddling.

This was the concensus of study and experience and investigation at the end of 1918, and is unquestionable preponderance of reliable opinion today. The utter failure and disastrous results of the administrative and other experiments of the last three or four years which have ignored it, have established its fundamental importance in the control and remedy of the drug situation and its problems beyond all honest question.

The ignoring of the real needs of the narcotic drug *problem* have created the narcotic drug *situation*.

The enactment of the Eighteenth Amendment, or any other legislation concerning alcohol,—had and have nothing whatever to do with it.

32 Court Street.

SMALLPOX—ITS DIFFERENTIAL DIAGNOSIS*

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At the present time there is no disease more worthy of serious consideration than smallpox. It is well known, that previous to the days of vaccination, this infection was one of the common ailments of childhood; that it was, in fact, on a similar plane in its age-period and frequency with measles of today. However, vaccination has changed all this to such an extent that in recent years we have come to regard smallpox as a comparatively rare disease of adult life.

Nevertheless we are now being confronted with a hazardous situation. Owing to the various species of anti-vaccinationists which have sprung up in different sections of the country, and due to some strange pressure which these misguided people have been able to exert on weak-minded legislators, real opposition to the greatest truth in medicine has become manifest in some of our states. As a result, there has been not only a vast increase in smallpox morbidity, but the proportion of cases among children has been multiplied many fold. Even here in Chicago this change in age incidence has been markedly evident. Consequently the question now confronting us is, shall the medically ignorant push knowledge and scientific facts to the background, in order that smallpox may again head the list of the common diseases of childhood?

All the foregoing remarks lead to the most important consideration in dealing with smallpox, namely, its diagnosis. We must recognize the disease if we are to prevent its spread. The fact that so many errors occur in this respect is not at all strange, for it is merely due to a general lack of familiarity with the infection. If smallpox were to again become as common as measles, there would soon be little difficulty in determining the nature of the eruption when met with.

Although smallpox has been attributed to a protozoon, we are not yet definitely sure of the organism. The incubative period, when possible of accurate determination, is found to average from 12 to 14 days. Rarely it may be as long

*Read before the Northwest Branch, Chicago Medical Society, April 14, 1922.

as 21 days, which is the greatest duration for any case coming under my personal observation. On the other hand, incubation periods of but 8 to 10 days seem possible, even if not frequent.

The onset of smallpox is abrupt. Commonly it is ushered in with a chill or, in children, a convulsion, though sometimes there are but chilly sensations. In the great majority of cases, the attack starts in the late afternoon or evening, very much less often in the morning hours. A rapid rise in temperature to 103° or 104° may be noted. The pulse is full and rapid. Intense headache, which is usually frontal, develops and vomiting or nausea almost invariably follows, though possibly not until the next day. There is also backache, especially in the lumbar region, aching pains in the legs, and sometimes excruciating epigastric pain as well. The patient frequently states that he aches all over, and may add that even his bones ache. Although constipation is the rule, diarrhea sometimes occurs.

During the second day of the onset, the vomiting may be recurrent and the temperature may continue to rise, attaining at times an elevation of 107°. While a flushed face and hot. dry skin are common, yet again marked sweating may occur. Delirium may also develop, or the patient may merely present a picture of extreme prostration.

On the third day, headache, general prostration, perhaps sweating and fever, are the chief symptoms. But by the morning of the fourth day, in most instances the patient feels (if a discrete case) remarkably improved. Commonly he is free of his agonizing symptoms and his temperature will usually be normal, or approximately so.

The patient's own diagnosis of his ailment thus far is almost invariably grippe or influenza. And it should be remembered in this connection, that a white blood count during the prodromal period just described, will show an absence of a leucocytosis, even though the temperature be 107°. In confluent cases of smallpox, there is usually but slight remission of the fever when the eruption appears. Another symptom which may make its appearance at this time, and which is much more common in the colored than in the white race, is salivation.

The prodromal rashes which may resemble either scarlet fever or measles, when they occur, may usually be seen on either the second or third day of the disease. When one or the other of these rashes is present, it is most marked about the axillary regions, inner surface of the thighs, and perhaps the lower abdomen. An initial rash of either type fades out as the true eruption makes its appearance. Such rashes are said to occur in from 10 to 16 per cent of cases, but I think these figures too high.

With the appearance of the eruption on the evening of the third or morning of the fourth day, a slight sore throat is frequently complained of, and may be explained by the development of the eruption on the mucous membranes.

On the skin, the lesions first make their appearance in the most vascular regions—not necessarily on the forehead along the hair line, as so commonly stated. Sometimes the first lesions noticeable will be about the genitalia, or at the site of some recent injury, as a scratch or cut, or at any point where there has been some irritation of the skin, whether from an article of clothing or from an applied remedial agent, as a liniment. And it should be borne in mind that the initial symptoms are in no sense an indication of the type of eruption which is to follow. A most violent beginning may be followed by a numerically mild eruption, or the reverse may be true.

On the first day of the eruption, the patient himself, many times, feels so well that he is not aware of the fact his real troubles are only just starting, but rather believes he has fully recovered from a severe though brief illness. It is not at all unusual for some friend to call the patient's attention to the eruption which is developing, or the patient himself may only make the discovery when shaving on the following day.

On the first day of the eruption, however, which is usually the fourth day of the disease, the lesions are macular, and in their first appearance somewhat resemble rose spots. They rapidly become papular, however, and the trite expression "shotty feel" may be aptly applied. From the third to the fifth day of the eruption, the papules undergo change, becoming vesicular. These vesicles are ordinarily small, are seen to have a thick covering and ruptured only with great difficulty. Within twenty-four hours of the time that vesicles are detected, you may find umbilication of the lesions, if you care to emphasize this point as one of any great import in the diagnosis.

From the sixth to the eighth day, the lesions

become pustular, and with this change they have increased in size, presenting a full, tense appearance, with an inflammatory base or areola. The contents of the lesions have also changed from a semi-transparent fluid to a grayish yellow opacity. It is at this stage that the fever of suppuration is always presumed to make its appearance, and the popular view generally is that this fever is high and marks a critical period of the attack. Nevertheless, from my own observation and care of approximately 1,500 cases, I have found that the fever of suppuration is more exceptional than the rule in the average case of discrete smallpox. Nevertheless, at this time the patient experiences a sensation of tenseness and burning about the involved areas of the skin. Comparatively few sufferers complain of itching at this period, nor is itching a common symptom during the course of the disease. The temperature in mild cases frequently does not rise above 99° after the first appearance of the eruption, and in severe discrete cases it often only touches 102 for a day of the suppurative period. In confluent cases, on the other hand, the fever may never fall below 103° from the day of the first symptoms of the onset until death occurs between the ninth and twelfth day of the eruption, if the case terminates fatally. In severe discrete cases and in confluent cases, edema of the eyelids and entire face is marked by the fifth or sixth day of the eruption, and the throat symptoms may be so severe that the patient cannot even swallow fluids until this condition abates.

By the ninth day of eruption desiccation is seen to be well started and the drying of the lesions is quite rapid, especially about the face, during the next few days. In an average attack of discrete smallpox, the skin will usually be free of crusts within three weeks of the date of eruption.

Having referred to some of the principal symptoms of this infection, we may now mention a few of the diseases or conditions which may cause confusion in diagnosis:

In the first place, I think it may be properly said that a diagnosis of smallpox should be based on the picture presented to the eye, for I am assuming that no one can make a definite diagnosis of smallpox before the eruption is present. Furthermore, if the diagnosis is to be made on the patient's history, it is more than probable that error will result in at least 50 per cent of the conclusions reached.

In examining a case of suspected smallpox, close observation is of the utmost importance. If the patient shows evidence of a typical vaccination scar of comparatively recent date, variola may be almost absolutely ruled out.

Discrete cases will show the lesions predominating on the head and extremities, and this distribution of lesions in smallpox is one of the most valuable points in its diagnosis. The presence of lesions on the mucous membranes, on the palms or soles has not the significance which it often receives, for the same thing may occur in chickenpox, and, moreover, all smallpox cases do not have lesions in those locations. Smallpox lesions are all in the same general stage of development in any one locality at the same time. But development of lesions at one extreme of the body, as the face, may be twenty-four hours in advance of the other extreme—the feet. Although the lesions may have the appearance of shot underneath the skin, it is not necessary to find this out by tactile sensation, nor is it necessary to touch a smallpox case at all when making a diagnosis.

A common error is for one to believe that a smallpox patient should appear very ill during the first days of eruption. As a rule, this is only true in the confluent or hemorrhagic types. When a diagnosis has been made by observation, the patient's history should be obtained for the purpose of confirmation.

During the onset or prodromal period of smallpox, influenza or grippe, is the most frequent d i a g n o s i s. Bronchitis, broncho-pneumonia or lobar pneumonia are also often blamed for the symptoms. Tonsillitis is still another disease for which smallpox patients have been admitted to private hospitals. Malaria and typhoid fever, with Widal positive, though the case is smallpox, are other sources of error. Owing to the marked delirium, which may set in early, various types of meningitis are sometimes suspected, or the headache may be attributed to sinus infection. Appendicitis, cholecystitis and various uterine troubles are still other conditions which have received serious consideration during the onset. The fact that there is no leucocytosis during the onset of smallpox will help eliminate some of the preceding, but will be of no value,

of course, where influenza, typhoid or malaria is viewed with askance.

After the eruption has made its appearance, we find that the ruling out of chickenpox is our most troublesome problem. This difficulty may be attributed to the fact, not that smallpox is hard to diagnose, but that we are not sure of our diagnostic ability in dealing with varicella. For if we are absolutely certain of our capabilities in recognizing chickenpox, it will be simplicity itself to rule out one of the two diseases under consideration. In working out such a solution, we know that the lesions of chickenpox predominate between the shoulders and knees, whereas smallpox lesions in the ordinary discrete type, are most numerous on the head and extremities. This one point is almost invariably sufficient to make a differential diagnosis where chickenpox is concerned, provided we have under consideration discrete smallpox. By observation we also note that the varicella lesions are flat, ovoid and superficial; that they occur in crops, and therefore present various stages of development, and that they rupture easily. A chickenpox patient usually feels worse on the day the eruption appears, whereas an average smallpox case feels better. The presence of a typical vaccination scar speaks against smallpox, while the history, or more properly the evidence of old chickenpox scars, tends to exclude varicella.

Measles, German measles and scarlet fever are especially suggestive in confluent smallpox. The absence of Koplik spots and catarrhal symptoms and also the age of the patient may be of value in eliminating measles. In the presence of a smallpox epidemic, a diagnosis of measles in an unvaccinated adult who presents no catarrhal symptoms should be made with caution.

Where German measles or scarlet fever are to be differentiated, the presence of postauricular glands in the former and a leucocytosis in the latter should be of assistance.

Impetigo, pustular syphilis, glanders, dermatitis herpetiformis, drug eruptions, typhus fever, ulcerative endocarditis, purpura, cerebro-spinal fever and generalized vaccinia are all diseases or conditions which have been from time to time confused with smallpox. And in regard to the last named, it should be particularly mentioned that a diagnosis of generalized vaccinia in an individual with a known exposure to smallpox previous to the date of vaccination is usually a decision fraught with danger. Under such circumstances a vaccination performed during the incubative period of smallpox may mature, and yet at about the height of its reaction a smallpox eruption may appear.

Since January first of the present year, we have had 71 cases of smallpox at the Isolation Hospital, with 13 deaths, or a mortality of about 18 per cent, which is the highest in many years for Chicago. The Kansas City mortality, during the recent outbreak, was approximately 40 per cent, and in Colorado and Oklahoma my information is that the death rate was still higher. We have had among our cases but two colored patients, one of whom, a woman 64 years of age, died. Forty of the cases were males and 31 females, so the sexes have been rather evenly divided. The ages varied from 10 weeks to 76 years. More than 50 per cent of the cases were under 10 years of age, approximately 40 per cent were under 5 years of age.

Among the 13 deaths, two were hemorrhagic cases, both women who had never been vaccinated. Five of the fatal cases were 6 years or under. Among the 13 deaths there was but one where the patient had made any claim to ever having had a vaccination. In this one instance, there was a faint, doubtful mark, which the patient believed was the result of a vaccination performed 35 or 40 years previously. Aside from the two hemorrhagic cases, the deaths were all from confluent smallpox of an extremely virulent type. All deaths occurred between the seventh and twelfth day of the eruption.

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TUBERCULOSIS OF BONES AND JOINTS*

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We have seen very good examples of the surgical pathology of bone tuberculosis lately, and in view of that fact, perhaps a few collated facts on that very extensive subject may not be inopportune. The pathology is very interesting, but the many and varied pathological pictures afforded may prove somewhat tiresome. So I shall try to use my own language in describing much of the detail.

Tuberculosis of the bones and joints, in the great majority of cases follows slight contusions

*Read before Oak Forest Medical Staffs.

and sprains. Disease of the vertebra, of the head of the tibia, or in one of the tarsel bones may follow slight trauma from a fall or a wrench. The result of such injury is to impair for a time the circulation of the part, or I should say nutrition of the part in consequence of the impairment of the circulation. For this reason a sprain of, say, the ankle is perhaps of far more serious consequence than a fracture of the bone. Now if there were no tubercle germs in the individual there would result no bone or joint tuberculosis in such an individual. However, of those predisposed to the disease, in nine hundred and ninety-nine out of a thousand there are already tubercle bacilli floating in the blood or lymph stream. The germs may float individually or a great number may be set free from a gland that has caseated into the blood vessel. The tubercular affection may be multiple or in sequence, that is to say, a cheesy or scrofulous gland may give rise to a pulmonary tuberculosis, and from this tuberculosis of the bone or joint result. Or, the affection of the bone may follow the breaking of a caseous gland into the blood, and later that of the lungs may follow. However, there may be a single lesion or focus. This may heal —the lesion may become caseated or calcification and finally cicatrical tissue occupy the place of the tubercle.

A lesion may remain quiescent in this disease, and constitute an ever threatening danger. So that to my mind, in a predisposed individual, who has already manifested signs of the disease and who is believed to have a symtomatic cure, there is always a mental reservation as to the permanency of the cure. Of course, there are many people who contract tuberculosis who have done so merely because of continuous proximity to one afflicted with the disease, and these are the people whose cure we, as a rule, hear of.

Tuberculosis of the bones and joints is one of the commonest forms of tuberculosis disease, and it is therefore of great necessity and importance that physicians should understand it. However, it is (that is tuberculosis of bone and joints) nevertheless it is one which suffers greatly from the ignorance and indifference of those called upon to treat it. Great advances have been made in the knowledge of the pathology of the disease, and it is being more intelligently treated than it was twenty years ago.

The greater part of the cases of bone and joint tuberculosis occur in children and in youths. It was said by Billroth that one-half of all the cases occurred before the twentieth year. This is true of most joints—diseases of the wrist and of the shoulder are found mostly in adults. These two instances are usualy the seats of primary tuberculosis, whereas in children usually the disease occurs first in bone and breaks secondarily into the joint. These single nodules may remain quiescent in the ends of the bones for some time without giving any evidence of their presence. Hip-joint disease usually begins as a bone disease; is most commonly seen in childhood, and affects males more than females. In later life there is little difference between the sexes in this respect. It is probable that most of the cases of bone disease are secondary to some diseased bronchial or mesenteric gland. Landerer examined post-mortem 150 cases of tuberculosis of the bones and joints, and with only one or two exceptions found tuberculosis disease of the bronchial glands that evidently antedated the bone affection. There is an undoubted hereditary tendency shown in this disease; in two series of several hundred cases of tuberculosis and bone tuberculosis in about half there was found history of tuberculosis in the parents or the grandparents.

A great number of experiments have been made upon animals to demonstrate the tuberculous nature of so-called "scrofulous disease." Rabbits or guinea pigs have been injected in the peritoneal cavity or in a joint, and immediately afterwards the joint was twisted, bruised or dislocated. When the bones or joints were not subjected to trauma there was no tendency to the formation of tubercles therein. All cases of fracture healed without trace of tuberculosis at the seat of fracture. In this respect there is quite a difference between the action of the tubercle bacilli and that of the pyogenic cocci, for when the animal is injected with the latter the fracture is sure to become infected.

There are two forms of tuberculous disease of joints: in the one the disease begins in the epiphysis, in the other in the synovial membrane of the joint. In the first form there is a prodromal stage during which only the bone is affected. As the disease approaches the articular cavity, an inflammatory reaction non-tuberculous, is set up in the joint, and it may become filled with serous exudation which may last some time

and finally disappear, or the synovial membrane become infected and granular. Or the membrane may become the seat of a proliferative inflammation, and adhesions and contractions almost obliterate the joint, and still the seat of the tuberculous infection remain confined to the end of the bone. This is seen in the hip joint frequently and the joint becomes ankylosed. If tuberculous material finds its way into the joint, it is spread about by the movements of the limb, into all parts of the synovial capsule which soon becomes infected.

The infection of the joint from the bone occurs through the gradual spread of the pathological process by way of the Haversian canals, and by the absorption of the trabeculae. When the disease has not spread into the joint, all that may be necessary may be to remove this small focus in the end of the bone or the sequestrum. When the infection breaks into the joint, the infection of the synovia takes place rapidly. In some cases the synovial membrane, although the seat of miliary tubercles, may remain moist and smooth: in other cases (mostly in old adults) there may be a rapid breaking down into pus. Then there is the form with extensive granulations producing the so-called "fungous" type of joint disease. In the joints of the aged already referred to there may be extensive disorganization and the cavity becomes filled with tuberculous pus. This tuberculous hydrops is not very common.

The bone type of the disease is the commonest, and is found chiefly in children. The cartilage is readily affected by the granulation tissue working from beneath or by the action of pus in the joint, owing to its feeble resisting power. Finally ulceration of the cartilege is produced. Sometimes in the hip joint the granulations may be so exuberant, the cartilage may be lifted entirely off—caplike.

In the primary synovial form of the disease, the bone may be only slightly affected.

There is a peculiar form-caries sicca, that is dry caries, in which the synovia proliferates extensively, penetrates the cartilage, and may destroy a considerable part of the head of the bone, e. g. the humerus. It is seen between twenty and thirty, and runs its course in one or two years leaving the shoulder ankylosed.

Rice-like bodies may be found in affected joints which have retained a good deal of motion, but they may also be found in joint affections which are non-tuberculous. They are formed from the exudation of fibrin. Their presence may be recognized by a peculiar cracking sensation like that produced by compressing snow.

Changes in the soft parts connected with the joints. In the cases you have seen lately, you will remember that in two of them at least the soft parts were extensively disorganized, and were riddled with fistulae. The change I wish particularly to refer to is gelatinoid degeneration affecting the capsule and the connective tissue, as well as certain structures within the joint. Even the muscles and tendon are subject to this peculiar change. This gelatinous change is thought to be due to the venous stasis resulting from the increase of the contents of the joint capsule. But this peculiar formation so characteristic of tuberculosis of joints is found where no such obstruction exists. Therefore the change, Warren thinks, must be due to chemical change brought about by the tubercle bacilli in the surrounding tissue.

Spasmodic contraction of some of the muscles governing the joint as in the flexors of the knees, is one of the marked clinical symptoms of the disease. This contraction is caused by the reflex irritation of the nerves of the muscles affected, as was shown so well by Hilton three-quarters of a century ago. By this muscular contraction deformities of the spine, the dislocation of joints, e. g. the knee, and great deformity may be brought about. Cure may take place by absorption of the tuberculous tissue, and its replacement by healthy granulation tissue. Contraction necessarily follows.

In the bones tuberculous masses—even sequestra—may be absorbed. Cheesy masses, as stated before, may remain quiescent for years. With partial operation such a quiescent mass may be disseminated, and a military tuberculosis result.

A long bone may increase in length, or there may be atrophy in the caliber of the bone. If the epiphysis be attacked and destroyed—rather the epiphyseal cartilage—in the growing period of the body—then the bone will cease to develop in length.

Just a few words as regards the peculiarities of the individual joints reacting to local tuberculosis:

The hip: It was stated that in the larger number of cases the disease originates in the bone, but it also originates in the membrane not in-

frequently. It may attack the acetabulum or the head of the femur, the neck or the great trochanter. The ligamentum teres may melt away and the joint cartilages become exfoliated. The contraction of the surrounding muscles causes the head of the femur and the acetabulum to be pressed together more strongly, increasing consequent ulceration. There may be an abscess confined to the joint, but usually the capsule is perforated and the abscess becomes manifest extra articularly. In the later stage of the disease one cannot say whether the joint was originally attacked by the epiphyseal form or the synovial form of the disease. The head of the bone may become completely destroyed, and the acetabulum enlarged. There may be dislocation of the head of the femur. Sometimes the amount of bone destroyed is enormous. After the disease has fully developed there is not likely to be a cure without ankylosis.

In the knee joint, in childhood, the synovial origin is as frequent as the bone form. Later in life the bone form is more common, and the frequency of sequestra in old people makes the disease more obstinate.

Tumor albus or white swelling of the knee joint is due to the formation of granulation tissue, to the gelatinous change in the periarticular tissue, and to the enlargement of the ends of the bones. There is simultaneous atrophy of the muscles about the joint. This joint affection seen so frequently is ascribed to the use of the joint in a patient not properly advised as to the treatment and care. The whiteness of the skin is due to the absence as yet of inflammation of the skin. In a well advanced case of the disease, on opening the joint there are found more pathological changes than are expected from the clinical signs and symptoms: the cartilages are well ulcerated, the synovial membrane badly infiltrated with tubercle, and periarticular abscess usually disclosed by the incision, which may or may not communicate with the joint.

Then when there is flexion of the joint from the reflex contraction of the muscles, from the pressure there is ulceration of the cartilages or of the bones and displacement of the head of the tibia, which is also favored by the relaxation of the capsule.

The shoulder joint is not very frequently the seat of the disease, which is usually found in adult life. The head of the humerus may be affected, but the greater tuberosity is most frequently affected. Caries sicca, tuberculous inflammation of the shoulder joint, has been referred to. There is atrophy of the tissues about the joint, and the condition may greatly resemble a dislocation, from the emaciation and the prominence of the bony landmarks.

Tuberculosis of the elbow joint may result spontaneously or as the result of slight injuries, especially in children. In our recent case, the patient is a man about 38 years of age.

According to Billroth's statistics of 1996 cases there were:

Elbow	93	Ankle	150
Knee joint	239	Wrist	41
Hip	198	Shoulder	28

the elbow being fourth.

The disease usually commences in the bone—the spongy portion of the olecranon. Nodules may occur in the epiphysis of the humerus, but rarely in the radius. Sometimes, the disease first appears in the synovia. Localized pain and some enlargement of the bone indicate its beginning. As a rule, the movements of the joint are impaired early. The surrounding tissues are swollen as the joint becomes disorganized. As you will recollect from the cases you have seen here (Oak Forest), there was well marked tumer albus, with the spindle shaped swelling.

The prognosis of tuberculous disease of the elbow is not favorable for re-establishment of movement unless the case is treated early. The beginning is insidious: the point of origin in the bone must be sought for early. It may remain confined to the bone for some time. There is inability to use the joint and stiffness. In the lower extremities, there will be some lameness. In a superficial joint as the elbow or the knee, there may be some swelling over the part of the bone affected and pain upon pressure. Pus may form and be discharged with particles of the bone externally. The adjacent joint may suffer from non-tuberculous inflammation with enlargement, and spindle-shaped enlargement follow. The veins are injected, and the skin thin and shiny like a bald head. The muscles over the joint atrophy, and there will be some atrophy of the tissues above and below the joint. In the later stages, the muscles may undergo degeneration, with absorption of the contractile substance.

Muscular fixation is a symptom of nearly all forms of tuberculous joint disease. The joint is

flexed, the limb adducted, with more or less rigidity. The flexion is undoubtedly due to reflex contraction of the muscles from irritation. In the hip, spasm is present early. If there is no limitation of motion there is no tuberculous disease present.

Pain is a prominent symptom of joint disease—sometimes it is wanting. In hip disease, it is a well known fact the pain is referred to the knee, and there is sensitiveness to jarring of the limb. The knee pain is due to the intimate association of the sciatic, the obturator, and the anterior crural nerves. As mentioned by Hilton, the nerves which direct the motions of the muscles moving a joint, also furnish the cutaneous sensation over the joint and the joint sensation. The night cries associated in children with early hip disease are caused by sudden sharp pain, which leaves a feeling of aching in the hip and the thigh. Also, tenderness may be elicited in the groin just external to the femoral vessels, and also on the inner surface of the head of the tibia. In the ankle joint, the anterior and lateral portions are the tenderest spots.

In the elbow joint, pain on pressure is felt over the head of the radius. Pain in Pott's disease is generally referred to the back of the head, the shoulders, the chest and the abdomen—"stomach-ache." Tenderness on pressure over the spine is not a symptom of this disease.

There is usually little if any febrile disturbance during the early stage of the disease and while it is confined to the bone or joint. Even when cold abscess is present, the rise of temperature is slight. If pulmonary tuberculosis be also present, or tuberculosis of other part, there may be fever of course.

In case of miliary tuberculosis, there may be continued and high fever. When a cold abscess breaks, there is added a pyogenic infection, and the fever becomes hectic in type.

Cure, it is said, may take place in even the most aggravated cases, but with ankylosis or deformity. However, a fair amount of motion often remains in some joints after recovery. It is not uncommon for relapses to occur several years after apparent cure, some cheesy material remaining imprisoned in the cicatricial tissue.

In unfavorable cases, albuminuria may appear as the result of amyloid degeneration of the kidneys. Pulmonary tuberculosis may appear as a complication, particularly in connection with caries of the carpus.

Affections formerly known as caries of the joints, scrofulous disease, gelatinous disease, fungous or strumous affections, spina ventosa, etc. are of course tuberculosis and nothing else.

Diagnosis: A fairly good condition of the patient does not preclude tuberculosis of the bones, the marked symptoms mentioned appearing only in the later stages.

There are a number of other infectious bone diseases which begin as acute affections later becoming chronic. Acute osteomylitis is the most frequent of these. It may lead to suppuration of the joint and destruction of the articular cartilage. It begins as a very acute inflammation of bone, with profound constitutional disturbance. When the necrosis has taken place, the abscess has broken and fistulous openings formed, the acute stage passes away, and the patient is left with chronic suppuration of the bone. In this, the inflammation affects only the shaft and not the epiphysis. Tubercular sequestra are as a rule smaller, more irregular, and are filled with cheesy material.

Sometimes, syphilis of bone is not readily distinguished from tuberculous disease. There is not the same tendency to suppuration, and the disease affects certain localities. Syphilitic caries of the cranium is usually very extensive, and runs its course without suppuration. Then the history of the case points distinctly to syphilitic disease. A gumma may form in a capsule of a joint, but the therapeutic test will clear up the diagnosis.

Metastatic inflammation of the joints may be referred to only as occurring as complications of the acute exanthemata.

Serous effusion into the knee joint, hydrops articuli, may suggest tuberculosis, as in organic disease or after slight injury as after jumping from a car, etc.

Other joint affections which I shall merely mention are neuralgic or hysterical joints, arthritis deformans.

Periosteal sarcomata may simulate tuberculous disease, and have been opened by good surgeons.

Prognosis: It is far more favorable in children than in adults. The severest type of bone and joint disease may heal spontaneously—in fact the conditions for limiting and subsequently absorbing the tuberculous foci are more favorable

in bone than in internal organs as, e. g. the lungs. The localization in bone and joint disease is more marked in children, and a minor operation frequently suffices for the cure of the disease. Caries of the wrist in adults is almost invariably followed by pulmonary tuberculosis. Warren in his Surgical Pathology says that resection for tubercular disease of the ankle in adult life is not of much avail, and that amputation is the only resource in disease of the carpus and tarsus in this age. This has been our experience.

The statistics of this disease do not show a very large percentage of cures. Billroth gives estimate of 27 per cent mortality in cases observed by him in sixteen years. Koenig 17 per cent. in 177 operations. Even after surgical removal, there is always the possibility of a local recurrence or of the affection springing up in some other organ. The difference in the prognosis in diseases of the different joints is very great. In the most favorable cases, it is unsafe to promise a cure in less than two or three years, and there is always the danger of relapse after several years of health.

Treatment: I will only refer to general treatment. The constitution treatment differs not at all from that employed in other tubercular diseases: plentiful supply of milk and fresh eggs, country air, cod liver oil in cold weather, phosphate of lime, syrup of the iodide of iron in the advanced stages. When albuminuria appears, as the result of amyloid disease of the kidneys, KI is said to be of service.

Local Treatment: Fixation of the joint should be employed in the early stage, when the tubercular disease of the bone is exciting surrounding inflammatory reaction. This may be continued for several years, with light compression. At first a thin layer of plaster of Paris with a coating of silicate of potash or dextrin, and later the latter renewed several times a year. This treatment is more applicable to the knee than any other joint. It can also be used for the hip or the ankle, the wrist, and sometimes for the elbow. In the shoulder joint it is of little use.

Another important element of treatment is extension to overcome the spasmodic action of the muscles. Extension prevents injurious pressure of one bone upon the other, the spread of the disease in the joint, and absorption of the bone, which may lead to considerable deformity. This mode of treatment can be applied only to the knee or the hip. In the hip affections, when they have passed the acute stage the extension splint may be used. I shall not dwell on these apparati, as you are doubtless quite familiar with their construction. I shall refer only to our well known ambulatory splint, and those of Sayre and others.

The malposition occurring in the knee joint must be overcome by extension or by forcible reduction. Some of the tendons in the politeal space may have to be severed to straighten the joint, then plaster applied. Bony ankylosis in an unfavorable position can be relieved only by osteotomy.

The treatment of cold abscess; preserve it from breaking as long as possible. When rupture is inevitable, make a small opening and endeavor to preserve from mixed infection. After aspiration, iodoform emulsion may be injected, then a splint used. Several injections of iodoform emulsion may be necessary. This treatment is well adapted to young people and children. It may be tried in primary epiphyseal disease as well as in synovial disease.

If the nodule can be localized, perhaps the best treatment will be to currette it, and pack the cavity. The ten per cent. iodoform emulsion may be used in open sinuses. It is not so effective as before the abscess is opened. Resection of a joint would not be resorted to where the nodule could be attacked in the epiphysis. If a sequestrum is present, it must be pried out. The cavity may be filled with iodoform gauze. When the joint has been invaded, arthrotomy may be necessary. When the joint and the epiphyseal ends of the adjacent bones are extensively disorganized and diseased, severe measures will have to be resorted to, amputation being the dernier resort—not to be delayed too long.

In short—plaster early and long continued, and especially for children—I cannot praise it too highly. In neglected tuberculosis of joints of the extremities—where the patient is chained to his bed by extreme suffering—and plaster has failed—then amputation. The change in the patient from wretchedness and despair to happiness and an active life is commendation sufficient. In almost a decade at Oak Forest we have seen not a few such. On the other hand a greater number were received in an incurable condition, either essentially so or by reason of neglect.

It is obvious the foregoing remarks apply only

to bones and joints of the extremities. I do not refer to caries of the spine, upon which volumes have been written. Suffice it to say in these affections the sovereign remedy is plaster, and then plaster again and again.

NEPHROLITHIASIS COMPLICATING PREGNANCY*

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In considering nephrolithiasis as affected by pregnancy we have two main questions to deal with; First, nephrolithiasis, complicating an existing pregnancy; secondly, whether a pylelotomy, nephrotomy, nephrectomy, or other surgical operation done for lithiasis jeopardizes the health or life of mother or fetus in the event of a subsequent pregnancy.

During pregnancy, the kidneys are abnormally taxed by the secretory load consequent to metabolic activity, and to elimination of fetal and maternal waste products, and, like the ureters, are subjected to the gradually increasing pressure of the gravid uterus.

Tridondani contends that during pregnancy venous stasis is induced in the kidney, first, by pressure of the enlarged and enlarging uterus on the renal veins; secondly, by engorgement of the abdominal vessels, and thirdly, by the fact that the uterine arteries during pregnancy draw off a large proportion of the blood from the kidneys. This venous stasis affects the nutrition of the glomeruli both by the increased amount of urea secreted and the attendant irritation and predisposes to albuminuria and other kidney complications of pregnancy.

During pregnancy, the skin is less active than normally; it excretes less. The pregnant woman's physical condition is one of decreased resistance. Such direct factors as the aforementioned and others acting indirectly, as sluggishness of the bowels and consequent constipation, not uncommonly observed during pregnancy, can easily impair normal kidney efficiency and can and may provoke renal disturbances even in the absence of pre-existing or predisposing renal lesions. Therefore, it is conceivable that a kidney, the seat of disease, may be further impaired, functionally and anatomically, during and by the pregnant state.

Renal lithiasis associated with, or complicating pregnancy has not received adequate study. Not infrequently, it escapes detection; not uncommonly, it is misdiagnosed and therefore injudiciously treated. It is observed in pregnancies normal or abnormal in type, location and evolution; it may be one of two or more pathological states coexisting with, and influencing or not, the evolution of an otherwise normal gestation. Our conclusions are based on a somewhat exhaustive analysis of cases reported in the literature and on our own personal clinical experience.

If only one kidney be affected, the organism may and usually does accommodate itself with the sound kidney; but during pregnancy, the sound kidney alone may fail to adequately eliminate the combined waste products of mother and fetus; signs of toxemia may appear. It must then be decided upon the conditions presented by each individual case whether a woman with a known kidney lesion is to be allowed to undergo the risks of pregnancy with the added strain which it throws on the kidneys. If a renal calculus or calculi are present, the medical attendant must determine whether its concomitance with the progress of pregnancy is permissible in the interests of mother and child; and should these interests demand it, what operative measure is called for. On one hand, there is the certainty of increased work for the kidneys, with a possibility of their failure to accomplish it; on the other hand, while the risks arising from operation may to a large extent be eliminated, and are, in a sense, minimal, yet operation offers no positive guarantee that urinary secretion will be increased. Pregnancy demands efficient kidney functioning. If renal lithiasis be present and operative relief is clearly indicated, we must know how operative intervention will affect the existing pregnancy, and whether it will in any way incapacitate the woman in the event of a subsequent pregnancy or pregnancies.

Renal calculi, associated with or complicating pregnancy, are unilateral or bilateral, single, double or multiple and (like calculi in the nonpregnant) vary in location, shape, size, mobility, chemical composition and other characteristics. Their formation either antedates, is simultaneous

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with, or consecutive to, the first or any succeeding pregnancy of the patient at hand.

The calculi excepted, the calculous kidney may show but slight structural deviation from the normal; or it may be anomalous in type, (single kidney), (fused kidney), b. location (ectopic kidney), or c. structure (polycystic kidney, hydronephrosis, yponephrosis). The anatomical anomalies presented by a calculous kidney are congenital, acquired, or both. If acquired, they are either of independent origin, or determined by the presence of calculi. Renal calculi, sooner or later, provoke structural kidney changes, degenerative, inflammatory, hyperplastic or neoplastic, in nature.

Nephrolithiasis, occurring in pregnant women, determines the same anatomical changes in the affected kidney as are found in the calculous kidney of the non-pregnant. These structural changes, the resultant of irritation, obstruction, and infection, manifest themselves by exudative, proliferating and degenerative processes, often suppurative in character; rarely, neoplastic.

Under the influence of stones, the epithelium of the renal tubules may necrose, form cysts or become malignant. In the absence of infection, the lesions presented are those of atrophic and diffuse nephritis. Generally, the aseptic stage of calculus is brief. Infection, sooner or later, supervenes and gives rise to one or more of the following conditions: Pyelonephritis with or without abscess formation, perinephritis, sclerotic or suppurative pyonephrosis, and partial or complete conversion of the kidney into a sclerolipomatous mass.

In nephrolithiasis, early diagnosis leads to the institution of logical treatment before irreparable kidney changes have taken place. An accurate diagnosis presupposes an intelligent interpretation of the subjective symptoms, of the bacterial, chemical and microscopical urinary findings, of the x-ray data and also the combined use of the cystoscope and the x-ray as employed in pylography.

In every case, there should be a complete roentgenographic exposure of the urinary bladder, of both kidneys and of both ureters. The skiagram is a permanent record. Skiagraphy shows (a) whether calculi are present in one or both kidneys; (b) the number, size and shape of the calculi; (c) their location—pelvis, calyx, parenchyma, or pyo—or hydronephrotic cavities; (d) the presence of extra-renal calcareous deposits.

Pyelography, a most valuable diagnostic procedure, should only be employed when the dangers attending its use are far out-weighed by the information which it offers. It enables us to determine the presence or absence of pathologic changes in the reno-pelvic outline and whether a doubtful shadow is or is not extra-renal.

Pain, local and radiating, is the most important subjective symptom. Its character and intensity are influenced by many factors: size, nature and mobility of the calculus or calculi, degree and acuity of infection, etc. It is provoked and aggravated by walking, fatigue or exercise, and subsides with rest. Hematuria, intermittent or continuous, scant or profuse, and pyuria are also important symptoms.

In cases of persistent lumbar pain, a radiograph of the kidneys, ureters and urinary bladder is of great service to the clinician. Radiography of the urinary system has limitations, determined, to a large extent by:

a. Defective technique;

b. Defective interpretation of shadows seen in the negative;

c. Impossibility of obtaining a satisfactory negative;

d. Defects in negatives;

e. Caseous kidneys;

f. Calcified mesenteric glands;

g. Phleboliths;

h. Bony deposits in the pelvic ligaments.

If the symptoms be mild, obscure, indefinite and identification of the x-ray shadows uncertain, the medical treatment of renal lithiasis is to be instituted and the pregnancy is permitted to proceed undisturbed. After puerperium, or better after the period of lactation, operative treatment is to be urged in suitable cases.

As many renal stones are spontaneously expelled, a patient should be kept under observation for a limited period of time and nature given full opportunity to remove the stone or stones without recourse to surgical intervention. Operations for renal stones give such good immediate and remote results, that treatment with supposed solvents finds few advocates. While it should be the general rule not to subject pregnant women to the shock of major operations, one must not overlook the fact that during gesta-

tion the prognosis of kidney operations is largely subordinate to the state of the affected or unaffected kidneys. The tolerance of even advanced pregnancy to major operations is well known, and it will be shown that if the necessity for such an operation exists, pregnancy in itself, within certain limits, is not a contra-indication. Operations for nephrolithiasis do not unfavorably influence the progress of pregnancy or in any way disturb delivery or the puerperium. This is all the greater reason why operative relief should be sought when other means fail to bring about the desired result in regard to kidney efficiency, removal of toxemia and cure of the latter's source. Operative relief being indicated, it is necessary to determine as accurately as possible the functional value of the kidneys.

In the absence of contra-indications, operation can be performed with safety up to the sixth month of pregnancy, to both mother and child. Up to that time in the absence of contra-indications, operative treatment is to be instituted in cases:

(a) of renal calculi too large to be spontaneously expelled through the natural channels. Even if the symptoms be recent in origin, or slight in intensity, nothing is gained by delay. Be not too optimistic as to small renal calculi; of all calculi, they are the ones most apt to lodge and become impacted in the ureter.

(b) of multiple calculi, irrespective of site, size, or number.

(c) of recurring attacks of excessive pain localized to, or radiating from, the renal region.

(d) of profuse or continuous hematuria.

(e) of acute pyelonephritis, of cortical or pericortical pus formation and pus collection, and bilateral pyelonephritis.

(f) of a calculus giving rise to urinary retention within the renal pelvis. Such retention, always a menace to kidney integrity, may lead to hydronephrosis, pyonephrosis, etc. A stone in the cortex of the kidney does not furnish as urgent an indication for operation as one in the renal pelvis.

(g) of Obstructive calculous anuria. This condition calls for immediate relief.

(h) of bilateral nephrolithiasis. In bilateral cases, first operate on the least involved kidney provided there is no acute pathological process in the other kidney, requiring immediate attention. In from two to three weeks, operate on the other kidney. If one of the kidneys be the seat of acute complications, it should be the first to receive surgical relief.

(i) of stone in one kidney and disease in the other.

(j) of renal lithiasis co-existing with tubercular or neoplastic disease of the same kidney.

(k) of a calculus or calculi in a patient's only kidney. Here, the patient's existence depends on the unhampered function of his remaining or sole kidney.

Nephrolithiasis and its complications are subjected for cure to the following operations, each of which has its respective indications, limitations and increasing field of usefulness: pelviolithotomy, nephrolithotomy, nephrectomy, nephrostomy, incision and evacuation of perinephric phlegmons. It may be necessary to supplement any of the fore-mentioned operations with temporary drainage of the renal pelvis, renal parenchyma, or perirenal regions.

Pelviotomy or pelvio-lithotomy, the operation of election, the operation most generally used for nephrolithiasis, is well adapted to the removal of stones present in the renal pelvis. With it, dangerous hemorrhage, immediate, consecutive or secondary, is of rare occurrence. Pelviotomy does not injure the renal parenchyma. It is unsuited for removal of voluminous or branched calculi. The pelvis is to be incised on its posterior avascular aspect.

Nephrotomy or nephrolithotomy, is attended with destruction of kidney tissue; at times, is followed by secondary hemorrhage. The friability of the kidney tissue may be such that the stitches tear out. Nephrotomy permits a thorough exploration of the organ and a complete removal of the calculi. It possesses the signal advantage of not entailing the sacrifice of the kidney. It is employed also if the calculus or calculi lie just beneath the renal surface, if the renal pelvis be abnormally small or if the kidney be so bound by adhesions that its exteriorization is inadvisable or impracticable. If pyelotomy be out of the question, nephrotomy is the operation of election for nephrolithiasis. Usually all the calculi can be removed through a large incision; in special cases, several small incisions may be made. If infection exists, pass a drain through the cut

cortex to the renal pelvis, also pass a drain to the kidney.

Nephrectomy: Hartmann's study of the literature leads him to conclude that the removal of a diseased kidney does not exert any unfavorable influence on the development of future pregnancies, and that this operation does not expose the patient to interruption of pregnancy, any more than other major abdominal operations.

Nechrectomy is indicated:

(a) In multiple, parenchymatous, large coral-shaped calculi unsuited to pyelotomy or nephrotomy.

(b) In renal hemorrhage that cannot be otherwise checked.

(c) In cases presenting advanced necrotic, suppurative or destructive renal changes. It is questionable whether it is worth while to save an organ having scant functional value and showing marked anatomical changes when a complete recovery can be obtained by a comparatively safe operation. If there be doubt as to the functional integrity of the other kidney, nephrectomy is not to be performed.

(d) When the kidney is reduced to a mere shell.

(e) When the kidney has been transformed into a sclero-lipomatous mass.

(f) If it seems probable that nephrolithotomy will leave a permanent urinary fistula.

(g) In chronic fistulae of the kidney, pelvis or ureter which have not yielded to non-operative treatment.

(h) In malignant disease such as tuberculosis, cancer, etc., in a stone bearing kidney.

Nephrolithiasis in pregnant women calls for the same operative procedure as in the non-pregnant. In the pregnant, these operative procedures have the same indications, limitations, palliative and curative efficacy as in the non-pregnant.

In discussing the condition, Legueu thinks that in the absence of complications, pregnant women should not be operated on for kidney lesions during pregnancy. Marion thinks that women showing kidney calculosis during pregnancy can be classified into two groups: First, those in which the calculus causes complications and which everyone is agreed should be operated on; secondly, those in which there is an absence of symptoms. In this second category, Marion distinguishes those at the beginning of pregnancy and for whom there is every advantage of preventing infectious complications; these can be operated on without risk. In cases in which the pregnancy has passed the sixth month, events should take their course.

Pregnancy in nephrectomized women occurs far more frequently than is reported in the literature, as the number of nephrectomies done on women within the age limits of sexual activity is considerable. Pregnancy, if not occurring too soon after a pyelotomy, nephrotomy or nephrectomy, is not hazardous, providing the remaining kidney is not diseased. If the remaining kidney is diseased, and not functioning properly, child-bearing is dangerous to mother and child and is not to be recommended.

SPECIFIC HYPERSENSITIVENESS AS A COMMON CAUSE OF ILLNESS*

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A rather large proportion of individuals inherit a constitution sensitive to one or more alien substances. After becoming sensitive they react in characteristic ways whenever they come into intimate contact with the substance to which they are sensitive. Naturally acquired sensitiveness in humans is usually far more marked in degree than that found in animals which have been sensitized artificially by treatment with alien proteins. With animals which have been sensitized to horse serum, for example, it takes an appreciable amount of horse serum given subcutaneously or intravenously to cause death or even a severe reaction. When a human becomes sensitive, however, to some alien substance, such as horse danger, his sensitiveness may be so marked that he becomes violently ill if exposed to the infinitesimal quantity of dander in the air around horses. Individuals sensitive to pollen have hay-fever and asthma after contact with the minute quantity of pollen in the air at certain seasons. They may have severe or even dangerous reactions following the subcutaneous injection of as small an amount as 0.1mgm. of the pollen to which they are sensitive: Sensitiveness of this extreme grade is not produced in animals by treatment with alien serums.

Substances to which individuals are sensitive

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may gain entry into the body by several routes and cause illness. It may be through air-carried bodies coming into contact with the mucous membrane of the eyes, nose, pharynx, larynx, bronchial mucous membrane, and less often the skin. This may cause a local reaction at the site of contact, or much less often, a reaction in some remote tissue after absorption. Contact may occasionally be more direct than that mentioned above. It may be contact between solutions and the skin or between food and the gastric mucous membrane. This may cause trouble locally, or frequently in distant tissues after absorption, or both. Foreign materials may be carried by the blood or lymph to distant parts after reaching the submucous or subcutaneous tissues by absorption or through the action of infection, or from insect bites, or by hypodermatic injections.

Some substances have a greater faculty for sensitizing than others. For instance, polen sensitizes more frequently than do other parts of a plant. Furthermore, some pollens as ragweed pollen, sensitize much more frequently than do others as golden rod pollen. The proteids of egg sensitize more frequently than do the proteids of beef. The future of the interesting subject in the diagnosis and cure of disease, lies in the discovery and listing of the great number of bodies which tend to sensitize, and in the practical knowledge of the whereabouts of such bodies.

In the subsequent paragraphs are summarized impressions and conclusions gained by an experience with this subject during a period of six years. Our experience has been a little different perhaps from that of physicians who specialize in the line of work. We believe this is because relatively few of our cases (except pollen cases) have been referred because of allergic symptoms. The great majority have been picked out of a group of obscure cases observed in a consulting medical practice and many were discovered largely through the rather free use of intracutaneous tests. As a result, we believe we have encountered more of the milder cases and fewer of the severe cases than writers who have specialized on the subject. Also, we believe our percentage of the less common manifestations, such as the gastric and bladder cases, has reached higher totals, than have those of physicians who have drawn cases which have been previously diagnosed. In these, I am sure that the proportion of nasal, bronchial, and cutaneous cases run higher.

POLLEN

Pollen is far the most common cause of allergy in this geographical district. The more important pollens are those of the common abundant weeds. It goes without saying that pollen of uncommon plants are not important for the simple reason that the average individual does not come into contact with them frequently. On this account, the pollen of cultivated plants is of interest only in instances where the habits or occupation of an individual brings him into contact with them frequently. Also light air-carried pollen, as ragweed pollen, is more important than insect carried pollen (daisy, dandelion, golden rod, and other flowers). This is not only because the former are more abundantly produced but also because they are carried by the air for considerable distances from their sources of origin. Furthermore, pollen of plants which pollinate for a short season only, such as some trees, is far less important than the pollen of weeds, as ragweed, which pollinates for weeks or months, and for this reason gives rise to a long and arduous season. For these reasons, therefore, the plants which pollinate over a long season, grow abundantly and produce large quantities of air-carried pollens, are the important factors in the causation of pollen allergy in humans.

Specificity of Pollens. Pollens are very specific in their action, or better expressed, an individual sensitive to pollen often is sensitive to one variety only, in fact, often to a certain pollen growing in a limited district. Some individuals are sensitive to one pollen only. The majority are sensitive to more than one. It is usual to find pollen patients who are sensitive also to other derivatives of plant life, such as orris root or to vegetable proteins, grains, or to emanations from animal hair.

Flowers, Leaves, Roots, Stems, Wood. Flowers, leaves, wood and roots are not common sources of allergy in this district. We have encountered only a few. Worthy of especial mention is the case of a physician of our acquaintance who invariably has nasal and bronchial allergy and swelling of the eyelids within ten minutes if he puts on any variety of panama hat. This experiment he has tried many times. He is sensi-

tive to no other straw and to no other type of hat.

It is quite common to find individuals sensitive to orris root and since this product is used widely in the manufacture of perfumes and toilet articles, such as tooth paste, face powder, sachet, soap, etc., it is worthy of emphasis. One should also mention, in addition to the products derived from plant life, those derived from coal and oil which are used so commonly in perfumes, flavoring extracts, as solvents, drugs, etc., and which are encountered almost daily by a great number of individuals. These should be taken into account in the study of obscure cases.

As examples of hypersensitiveness to products of the above type, may be mentioned benzol, a by-product obtained in the manufacture of coke, and used commonly as a substitute for gasoline and in the arts. We have observed a patient so sensitive to benzol that not only was she made ill when exposed to its fumes, but when a drop of benzol was applied to a scarified area on the skin a wheal developed immediately, finally reaching a length of 20 cm. Many other patients whom we have tested similarly with benzol have given no reaction whatever. We have likewise observed a patient sensitive to the vapors of gasoline; one sensitive to turpentine, who became violently ill after the painting of her house; several sensitive to some constituent of certain perfumes (not orris root) and to face powder. Scratch tests with these gave immediate reactions. We have observed a considerable number of patients who sneeze and notice swelling of the turbinates after inhalation tests made with one or several of the essential oils used commonly in the manufacture of perfumes, but who failed to give positive cutaneous tests. Goodale has mentioned the fact that patients with pollen allergy often sneeze or have asthma after the inhalation of the odor of scented flowers. A distinction must be made between these and patients who are actually specifically sensitive to some constituent of the plant other than pollen.

Drugs. Drug idiosyncrasies have been observed and discussed since the early days of medical science. Cooke has drawn attention to the similarity of their manifestations and those of allergy due to other causes. It is not uncommon to observe patients who are made ill by ordinary doses of cocaine, quinine, and other alkaloids, the bromides, iodides, aspirin and other coal tar products, belladonna, arsphenamine and numerous other drugs which to normal individuals have no marked untoward effect. Many remedies called heart depressants have gained their reputations for no reason other than that they tend to sensitize and cause phenomena of allergy. Each of several patients observed by the writer who were made ill by aspirin were hypersensitive to it and had symptoms resembling those of allergy caused by other agents. The illness in each case was caused by a small dose. The average patient can tolerate very large doses. It is interesting to mention in this connection apophysin and novocaine, as a relatively common cause of chronic eczema of the hands and face in dentists. Striking cutaneous reactions can often be obtained in the drug allergies.

Animal Hair and Feathers. Emanations from the skin and fur of animals have been less frequent causes of allergy in our experience than pollen and the foods. This type of sensitiveness when it exists, however, is equal in severity to that caused by pollen. This source of allergy would not be extremely important were it not for the fact exposure of some individuals even to the fur of animals used in wearing apparel, carpets, curtains, and in the upholstery of furniture causes disagreeable symptoms.

House Dust. This interesting source of allergy has been suggested recently by Cooke. He was able to obtain typical wheals by the intracutaneous use of extracts of house dust which he could not identify with other allergens. Positive reactions to dust extracts has been traced in one of our cases to a rug and in another apparently to wood smoke.

Smoke. The majority of patients with nasal or bronchial allergy are made worse by the nonspecific irritating effects of smoke or vapors. Some complain specifically of coal smoke, gasoline smoke, or tobacco smoke. We have observed several patients who seemed specifically hypersensitive to certain types of smoke and not to others.

Foods. Food is a very important source of allergy. It has ranked second only to the pollens in our experience. An individual may be sensitive to one article of food or to several articles of food; often to a group of somewhat similar foods such as grain or sea foods. An individual may be sensitive not only to one article of food,

such as egg or milk, and to one food only, but may be sensitive to one particular constituent of a food, such as lactalbumen; in fact, in the case of milk, he may be sensitive to and made ill by some article of food eaten by the animal furnishing the milk. This latter very interesting fact has been brought to light especially by pediatricians in tracing out the source of eczema in infants. Frequently an infant is found sensitive to some article which it has never eaten, but which is a constituent of the mother's diet.

Sensitiveness to foods is rarely so marked as is sensitiveness to pollen, although one occasionally encounters patients made violently ill by the merest traces. Delayed reactions are more frequently observed in food cases than in pollen cases.

Bacterial. Patients with infectious diseases, as acute tonsillitis or acute articular rheumatism, occasionally have hives and other symptoms of allergy. The part played by bacterial proteins in the etiology of allergy has been especially urged by Walker.

In patients who have asthma following "colds," it is important to discover whether the illness is an actual rhinitis or whether it is in reality an attack of nasal allergy due to a reaction against pollen or some other nonbacterial substance. For example, a mother gave us the history of her child who had frequent colds each winter followed by long sieges with asthma. One could have judged from the history that the nasal infection was the primary cause of the child's asthma. Cutaneous tests proved him very sensitive to egg, however, and after egg was eliminated from the diet he had a number of "colds" but they lasted a few days only and were never accompanied by or followed by asthma.

Intracutaneous tests made with protein of Staphylococcus aureus and albus, and B. coli very commonly give cutaneous reactions which are very different from the controls. They more often resemble the inflammatory reactions given locally by vaccines than the wheals which appear immediately after the use of pollen extracts.

Insects. It is not uncommon for patients and friends to remark that they are made ill by the bites of certain insects. Dr. Canby Robinson mentioned the case of a patient who had a large area of angioneurotic edema as a result of a hornet's sting. An associate of mine, following an insect bite (probably mosquito) had not only generalized urticaria and angioneurotic edema, but also an attack of intestinal colic, which rendered him very ill for twenty-four hours. He had had milder attacks on numerous occasions following mosquito bites. This source of allergy is very real and is not extremely rare.

Hypodermatic Injections. Hypodermatic injections of vaccine, thereapeutic sera, pollen extract, salvarsan, and other drugs frequently give rise to phenomena of allergy which may be very severe; in fact, in rare instances even fatal. Before administering horse serum therapeutically, one should always inquire for a history of hay-fever, asthma and urticaria and if possibly, make an intracutaneous test with 0.01 cc. or less or horse serum. Individuals sensitive to horse dander are not necessarily sensitive to horse serum. In those sensitive to horse serum the therapeutic use of horse serum is very dangerous and should be avoided.

Light. We have recently observed a patient specifically hyper-sensitive to light—in fact, to the blue rays of light. Exposure of the skin of this patient for two and one-half minutes to either white light or blue light gives rise to a wheal which covers the entire area exposed. Exposure of a large area has given rise to chills and general constitutional symptoms. Evidently some product is formed under the influence of light in the patient which is extremely toxic to her and gives rise to manifestations resembling allergy.

Blood Transfusion. We have observed severe allergic reactions in two patients at the beginning of a blood transfusion which were not due to faulty grouping. The patient, in each instance, was found sensitive to a food which had been eaten by the donor. The reactions were typical of allergy, were relieved by adrenalin, and were analagous, it is believed, to the reactions in infants attributable to sensitiveness to some article of the mother's diet.

Contributory Factors. While hypersensitiveness to alien matter is primarily responsible for symptoms of allergy, other factors may play contributory roles and determine the severity and location of the symptoms. Some of these factors are the mechanical, chemical, odorific, and thermal mentioned by Walker in relation to hay-fever and asthma. To these may be added reflexes, functional activity and other factors. The

influence of these factors is noticed by the majority of sensitive patients. For example, urticaria in a sensitive individual may be brought out by rubbing the skin, or by pressure on the skin, or by sweating. The rubbing of the eyelid may bring out a large area of angioneurotic edema. The hypodermatic injection of some harmless substance may give rise to a large edematous area and subcutaneous hemorrhage. I have known a mercury injunction to cause the appearance of swelling and hemorrhage into the skin, which we feared would become gangrenous.

Patients, who have dyspepsia and abdominal pain as a result of alimentary allergy, are almost invariably made worse by the eating of rough foods, such as nuts or lettuce; by the ingestion of irritating foods such as pepper and mustard; and by the ingestion of stimulating foods, such as alcohol, coffee or salt.

Pollen asthma is usually aggravated by the inhalation of dust or irritating vapors, by the odors of flowers, the essential oils or perfumes, by changes in temperature, changes in barometric pressure, and by the quantity of moisture in the air. Asthma may be either relieved or made worse by a reflex caused by the eating of a meal or by vomiting or by evacuation of the bowels. Asthma is almost invariably made worse by physicial exertion.

The above contributory factors are mentioned and emphasized because they often deceive both patient and physician. Each may be inclined to blame secondary factors for the discomfort rather than the primary fundamental cause, e. g., hypersensitiveness. For example, patients with pollen asthma will almost invariably blame wind, dust, smoke, vapors, exposure to cold, or changes in barometric pressure for their discomfort, even though they realize that wind, dust, and changes in barometric pressure may have no perceptible ill effect upon them except during the pollen season.

Under contributory causes of allergy should be mentioned infections and functional or organic diseases. Patients often state that their illness started soon after an infectious disease or an operation, especially intra-nasal operations.

Alimentary allergy is more common in individuals who have definite pathology in the alimentary tract or its appendages (such as ulcer, gall stones, or chronic appendicitis) than it is in normal individuals. This phase of the subject has been discussed more fully in a previous paper.

Bronchial allergy due to sensitiveness to milk or pollen may be brought out or made worse by acute bronchitis or rhinitis. Nasal sinusitis and polyps often play a contributory role in the etiology of asthma and nasal allergy. Patients with nasal polyps and asthma of undetermined origin are most difficult to cure and often baffle specialists in every line. The importance of nasal defects in the etiology of asthma has been greatly over-estimated in some cases, and many patients have been made much worse by radical work in the nose designed to relieve this condition.

SYMPTOMS

Symptoms of allergy are numerous; in fact, the more one studies the condition the more he is inclined to believe that reactions may involve almost any tissue or organ and cause disorder.

The more common symptoms are those which involve the mucous surfaces, which are exposed most frequently to the action of foreign substances which tend to sensitize, namely, the mucous membrane of the respiratory tract. Symptoms involving the skin, subcutaneous tissues and the internal organs are less common, and are usually part of a general reaction resulting from absorption of an offending allergin.

Symptoms involving superficial mucous surfaces, may occur as a result of the local effect of an allergin, or as part of a general reaction. For example, asthma may be the result of the inhalation of pollen or may be the result of a subcutaneous injection of pollen extract. Dermatitis on the hands and face may be a result of the local action of an allergin on the skin of the hands and face, or as we have observed once, as a direct result of pollen injections in the treatment of hay-fever.

Symptoms occurring as a result of a general reaction are often multiple. For example, asthma occurring as a result of a general reaction from the eating of egg, is more frequently accompanied by other manifestations such as gastro-intestinal disturbance, urticaria, etc., than is asthma caused by the inhalation of pollen (local reaction).

The symptoms to be mentioned subsequently, are those which are more commonly observed in

patients having reactions. All may occur as a local or as part of a general reaction.

Ocular Symptoms. Edema of the conjunctiva, puffiness, itching, swelling and redness of the lids. Excessive lacrimal secretions.

Nasal Symptoms. Sneezing. Pallor and swelling of the mucous membrane of the nose, associated usually with excessive watery or clear mucous secretion.

Pharyngeal Symptoms. Itching of the soft palate, pharynx; spasmodic cough; rarely, slight edema of the uvula.

Bronchial Symptoms. Bronchial obstruction associated with inspiratory and expiratory wheezing (the latter more pronounced) and often associated with the expectoration of thick, mucoid sputum, rich in eosinophiles. In less marked cases, cough and shortness of breath on exertion may be the only marked bronchial symptom.

Cutaneous Symptoms. The more conspicuous are urticaria, angioneurotic edema, eczema, erythema and pruritis, which may be either local or general. The dermatitis is often associated with marked swelling and redness of the skin, cracking of the skin (especially on the hands) profuse greasy secretion, and desquamation of the superficial epithelium. It may be most severe, and when the face is involved, may almost obliterate the features and transform it into a swollen, red, greasy, weeping, unsightly surface.

Gastro-Intestinal Symptoms. Abdominal pain, either steady or griping, local or general, mild or very severe, is the most interesting abdominal symptom. It is often related to the taking of food, and quite frequently appears a few moments after the ingestion of certain particular foods to which an individual is sensitive. Honey has been the most common single cause of acute abdominal pain of allergic origin in our experience. We have observed no less than six cases and believe it to be analogous in every sense to hay-fever except that the stomach is involved instead of the nasal mucous membrane. The cutaneous reactions in honey cases are very striking. Other alimentary symptoms are abdominal discomfort, sour stomach, nausea, vomiting, bloating, diarrhea, and mucous stools. Gastro-intestinal upset occurring as a result of allergy may easily be mistaken for "ptomaine poisoning" or a surgical lesion. The local signs of peritonitis, fever, and leucocytosis, fail, however. It occeasionally, however, terminates in an acute inflammatory process in the gastro-intestinal tract, or its appendages. We have observed four cases of acute appendicitis, which required surgery, to follow a severe attack of alimentary allergy.

Neurological Symptoms. Asthenia and a sensation described by the patient as nervousness, is rather frequently observed in patients who have hay-fever, asthma, and other symptoms of allergy. Weakness may be so marked as to confine a patient to the house or even to bed; in fact, I have never observed a patient more profoundly asthenic than the sensitive patient mentioned previously who had been given a dose of horse serum. Patients with hay-fever occasionally complain as much of weakness as of their respiratory distress.

Headache. May occur as a primary symptom of reaction or may be a sinus headache caused by obstruction of the outlet of some of the sinuses, by the swollen nasal membranes. Headache may be most severe and often yields quickly to adrenalin in proper dosage.

Arthritis. Joint pain and swelling is a very definite and interesting manifestation of allergy. My friend, Dr. R. C. Lowdermilk, related to me the case of a patient who, following a therapeutic injection of pollen, developed a typical rheumatic joint, for the first time in her life; it lasted several hours during her reaction, and then disappeared completely. The development of joint pain and swelling, as part of a general reaction to therapeutic sera, is not very uncommon. There is some similarity between the joint symptoms of acute migratory polyarthritis and that of a reaction of allergy. For example, pain and swelling about a joint may migrate from joint to joint within a period of a few hours, or in fact, at times, almost within a period of minutes. It is impossible that symptoms due directly and entirely to local infection, could appear or disappear at such a rate. While there is no doubt that acute migratory polyarthritis is an acute infectious disease, it is not impossible that some of the local symptoms such as pain and swelling may be in part the result of an allergic reaction about the joint; in fact, we have greatly relieved several cases of acute migratory polyarthritis by the use of adrenalin and believe it is frequently a useful aid in the treatment of this disease. We have used adrenalin in chronic hypertrophic,

atrophic, and gonococcal arthritis with less or no beneficial effect.

Blood Pressure is usually reduced (90 to 110 mm. of mercury).

Bladder Symptoms. Frequent painful micturition may occur as part of a general reaction. This is discussed in another communication. This type of reaction may be very severe and occurs especially in patients sensitive to vegetables or grains.

Secondary Symptoms. Localized allergy may give rise to secondary symptoms which are often quite interesting. For example, a patient observed by the writer complained of a seasonal headache, which was so severe as to practically incapacitate him for work. It would come on invariably each August and would disappear soon after frost. He was free from headache during one entire year which he spent in Florida. Upon examination, nothing of interest was found except a slight pale swelling of the mucous membrane of the nose with a very small amount of watery secretion. Adrenalin was used locally in the nose with almost immediate relief. Adrenalin used subcutaneously likewise gave relief. Intracutaneous tests with several fall pollens gave typical wheals with pseudopods, also a marked attack of nasal allergy as part of a general reaction. This patient was relived completely when he was treated as a pollen case. The swollen membranes in the nose probably obstructed the outlet of some of the sinuses and gave rise in this way to headache.

Other secondary symptoms of interest are those caused by the swelling of the mucous membranes in the respiratory tract which may cause an embarrassment of respiration, which in severe cases almost borders on suffocation. Edema of the mucous membrane of the alimentary tract may give rise to symptoms simulating those of intestinal obstruction. This occurred in a patient sensitive to turpentine after the painting of her house.

It is also not difficult to understand how swelling and blanching in the mucous membrane of so delicate a structure as the appendix, could easily lead to obstruction of its lumen, irritation, and finally to an actual inflammatory process. This appeared to be the exciting cause of an acute appendicitis in four of our patients. Chronic allergy may cause eventually, debility and emaciation of such a grade as to overshadow symptoms of the primary disorder, and lead to an error in diagnosis.

DIAGNOSIS

It hardly comes within the scope of this paper to discuss in detail the diagnosis of allergy. For this the reader is referred to the many excellent articles already written on this subject.

Allergy may be suspected in any patient suffering from one or more of the symptoms previously mentioned, especially if there is a history of hayfever, asthma, chronic urticaria, or eczema in one or both parents, and especially if the onset, or relief of symptoms bears some relationship to season, geographical situation, environment such as a house, workshop, stable, city, or farm, to time of day, habits, the eating of certain foods, to wearing apparel, odors, animals or pets, etc. Very often, important points can be gained through a careful history which makes it relatively easy to trace out the source of the condition.

The use of dermal, intradermal, and ophthalmic tests are always useful and are often indispensable in the diagnosis. Results obtained in this way, however, should be controlled and verified when possible by clinical tests—that is, tests made by the inhalation, ingestion, or avoidance of the suspected substances before final conclusions are drawn.

TREATMENT

It is hardly possible in this paper to discuss the treatment of hypersensitiveness in detail. This problem may be approached in four ways —first, removal of cause; second, specific protein treatment; third, nonspecific protein treatment; and fourth, symptomatic treatment.

When a patient is sensitive to some substance which he does not encounter frequently, removal of the cause may be simple. In the case of pollens, however, which fill the air at certain seasons, removal of the cause can only be accomplished through change in geographical situation. In this case and in the case of sensitiveness to common articles of food, such as milk, eggs, or wheat, which are used so much in cooking, specific protein treatment may be advisable.

In specific protein treatment the offending allergin is given subcutaneously in infinitesimal doses to start with. The dose is increased as rapidly as the patient's tolerance will permit and is continued until the patient gains enough

tolerance to stand the amount with which his habits and environment bring him into contact. In a large majority of cases, tolerance can be increased to a point of partial or complete relief when contact with the allergin to which an individual is sensitive is not overwhelmingly great.

If one is unsuccessful in finding the allergin responsible for an illness symptoms can often be relieved temporarily by the use of non-specific protein therapy. This is not recommended if one can find the allergin to which the patient is sensitive.

As a temporary expedient, the use of adrenalin can be recommended and if given in sufficient doses should relieve almost every case. Tolerance for adrenalin varies so greatly in different patients that it is impossible to surmise the suitable dose for any individual. For this reason it is advisable to start with 0.5 cc. or less subcutaneously or intramuscularly given slowly. Doses of 0.25 to 0.5 cc. can be repeated at five- or ten-minute intervals until the patient is either relieved or until the symptoms produced by adrenalin are more disagreeable than those of his allergy. The adrenalin can be repeated every three to twenty-four hours, depending upon the time of recurrence of symptoms. It can be continued until a more practical and more permanent method of treatment can be instituted.

SUMMARY AND CONCLUSIONS

A certain rather large per cent. of individuals inherit a constitution which makes it possible for them to become readily hypersensitive to foreign matter. Once sensitive, an individual may have severe symptoms of reaction whenever he comes into intimate contact with the substances to which he is sensitive. Patients are frequently specifically hypersensitive to certain varieties of pollen, less frequently to substances which can be extracted from the stems, flowers, roots, leaves or woody matter of plants, also to products obtained in the distillation of coal, wood and crude oil, also to emanations from animal hair or feathers, to drugs, dust, smoke, foods, products of infections, insects, etc.

As contributory causes which makes the symptoms more severe are nonspecific irritants of any sort, functional activity, reflexes, infectious, functional, or organic diseases. The immediate effect of a contributary cause often deceives the patient and leads him to blame it for his illness rather than the primary cause, specific hypersensitiveness.

The more common symptoms are the ocular, nasal, pharyngeal, bronchial, cutaneous, and reduced blood pressure, less often gastro-intestinal symptoms, neurological symptoms, joints symptoms, bladder symptoms, and other obscure symptoms.

The diagnosis can be made in a majority of cases through information gained by history, physical examination, cutaneous tests, ophthalmic tests, and clinical tests.

The condition can be relieved in a large per cent. of patients by avoidance of the substances to which they may be sensitive. When this is impossible or impractical, specific protein treatment is justifiable. Adrenalin is useful for temporary relief.

NOTES ON THE TREATMENT OF COMPOUND FRACTURES OF THE EXTREMITIES

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In these notes no attention is to be given to individual fractures nor are these remarks to be applied to fractures of the small bones of the hand and foot. The method here to be described is the one in use on the Halstead service at the St. Luke's Hospital, and is the one that has given the best results. Until after returning from army service the ordinary method was used, namely, cleaning out the wound as well as possible, attempted sterilization with iodine, removing any foreign bodies present, smoothing off the ends of the bones, and reducing and immobilizing by splints or cast. From that time on the expectant treatment was used.

Experience in the army, however, with Dakin's solution and the Carrel technique, has led us to adopt the following method. As soon as the patient is brought into the hospital a thorough cleansing of the wound, inside and out, is instituted with neutral soap and water, the mechanical cleansing being considered of more importance than the chemical. This is followed by a copious irrigation with Dakin's solution after which the wound is packed with gauze and Carrel tubes. At such time as the attending surgeon deems most propitious, the further treatment is

undertaken. The wound is then enlarged until all affected tissues can be thoroughly explored. The contused skin edges are cut away as are all other tissues that show signs of devitalization, excepting tendons, nerves and blood-vessels. Loose pieces of bone are removed as are all other pieces that are not attached by a large enough surface to be sure of remaining vital. If there has been any separation of the skin from the underlying tissues, the skin is incised freely and the cavity made into an external wound.

After this has been accomplished, the reduction of the fracture is undertaken and immobilization is brought about by the use of a Lane plate or the one described in *The Journal A. M. A.*, Feb. 11, 1922. A Thomas splint or some modification of it is applied and the Carrel-Dakin treatment followed from this point on. When tendons or vessels are exposed it is well to cover them with vaseline gauze to protect them from the solvent action of the Dakin's solution.

As soon as firm granulations are present about the edges of the wound, skin grafting is begun. It apparently makes little difference whether the deeper parts of the wound are infected at this time or not. In some instances when the original dressing covering the graft has been removed the grafts have been covered with pus which has run in from some other part. The grafts however were firm and healthy. When the grafts are put on they are covered with silver foil and vaseline gauze which remains three days without changing. The Carrel-Dakin treatment is not interrupted. Skin-grafting is resorted to early and frequently even if only a small surface can be covered at one time.

When enough callus has formed to prevent slipping of the fragments the plate is removed. The treatment is continued as above until all the wound surface has been filled in by grafting or until a bacterial count has shown the wound to be safe for secondary closure. With the removal of the plate extension by adhesive strips or a pin is applied and this extension is continued after the application of the cast by attaching the strips to a metal frame incorporated in the plaster and extending about six inches beyond the foot.

It is not to be expected that the plate will remain in place for any great length of time or that it will remain in place until the fracture has firmly united. The objects of its use are two-fold. First, as the wound is infected and requires frequent dressings, it makes possible the necessary manipulation without displacement of the fragments or great discomfort to the patient. Second, callus is rapidly formed even in the presence of infection and if the ends can be held quietly in apposition, by the time the plate has become loose enough to be no longer useful, sufficient union has occurred to retain the alignment. The plate is at this time removed without difficulty.

The results obtained by this method have surpassed those obtained by the older method, both in regard to function obtained and in time in hospital. There are instances of course in which the bones are so badly comminuted that a plate can not be applied and others in which the wound is so small that a large incision and a plate is not indicated. In the former, extension to the end of the splint is made and the procedure outlined above followed as closely as possible. In the latter a debridement is done, the wound packed for a few days with Dakin's solution and if clean, a secondary closure performed.

To my mind, the most important parts of the treatment are the conversion of every cavity into an external wound and the true immobilization given by the plate.

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GUNSHOT INJURY INVOLVING THE ULNAR NERVE

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I am reporting this case to again call attention to the unusual course and symptoms which a gunshot wound may produce.

History: About 8 o'clock on the night of January 27, 1921, C. F. C., a male, 39 years of age, while resisting a holdup was shot and brought into the hospital on my service. He was taken immediately to the operating room, and when I saw him 20 minutes later, he presented the following symptoms: He was in some shock, but conscious. There was marked pallor and cold perspiration covering the entire body. The pulse was of fair volume, 120 per minute, but absent in the left radial artery, the side in which he was shot. The wound of entrance was about 3 cm. above the left clavicle at the junction

of the middle and outer third. There was no wound of exit, but the bullet could be felt just under the skin about 2.5 cm. medianward from the left posterior axillary line and at the level of the middle of the scapula. A large hematoma was in the left supra-clavicular region, about the wound of entrance, but no active bleeding from the wound, and the hematoma was not increasing in size. The clavicle showed no fracture, the heart and pleural cavity was negative. Believing that any injury done to the blood vessels had already been taken care of by coagulation, I did not explore the wound for injured vessels. The usual treatment for shock was first administered, including stimulants and the intravenous injection of normal saline after active hemorrhage had stopped. The wound of entrance was swabbed with tincture of iodin and a gauze drain inserted. Under novocain I easily removed the bullet, 32 caliber, which was very superficial.

Course of the Case: The temperature for the next 10 days never rose above 100° F., and very little discomfort was experienced. The next day, February 28, a very small pulsation was palpable in the left radial artery; the entire hand was edematous, and the patient was unable to flex the fingers at the metaphalangeal joints. Ulnar flexion of the hand and adduction of the thumb was impaired. Both epicritic and protopathic sensation was absent over the small finger, index finger and ulnar surface of the middle finger in the dorsal surface. Within 14 days the radial pulse had gradually returned to normal and the edema of the hand had disappeared, but the ulnar nerve paralysis persisted. Massage and various electrotherapeutic measures were applied to the hand, and the paralysis gradually grew less. To overcome the deformity of the fingers a palmar board splint was worn at night. When last seen in July, 1922, the man was able to open the hand, and at that time had about 70 per cent of the normal use of the hand. The hand shows some atrophy of the small muscles, especially the interossei, with a tendency to hyperextension of the metacarpophalangeal joint and slight flexion of the distal joints of the fingers. The small finger shows more flexion at the distal joints than do any of the others. Epicritic and protopathic sensation is still slightly impaired over the distribution of the ulnar nerve.

CONCLUSIONS

The ulnar nerve was injured in this case either directly or by pressure of a hematoma which formed in the axilla. A bullet to pass through the axilla and injure only the ulnar nerve or a hematoma to exert pressure only in the ulnar nerve I believe is rather unique.

The gradual recovery from the paralysis without operative help, when at one time it was strongly considered, teaches us that sometimes the almost hopeless appearing nerve lesion cases will improve under palliative treatment.

ACUTE APPENDICITIS IN CHILDREN

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Of late years much effort has been directed toward lowering the mortality in children's diseases. It seems to be the settled conviction that appendictis in children is rare and its diagnosis attended with difficulties, and for this reason it is often ignored as a clinical entity. The writer's experience with these cases leads him to believe firmly that this condition is far more frequent than is generally supposed and that many lives might be saved annually if the possibility of appendicitis were weighed in the bedside consideration of "the acute abdomen" in children.

Nearly half a century ago Willard Parker, at that time a famous surgeon of New York City, called attention to this aspect of the case:

"Gangrene and perforating ulcers of the appendix vermiformis, usually occur in male children, and prove fatal in from two to five or six days. No certain diagnosis can be made out. Violent symptoms of general peritonitis set in, and it is rare that medical interference is of any avail.

"Abscess of the appendix, on the contrary, generally attacks those past adult life; is slower in its progress, and presents symptoms more easy to recognize."

(For the purpose of this essay, childhood will be assumed to extend from birth to the age of ten years.)

It is generally agreed that the disease is most frequent in late childhood and early adult life, owing to the wider communication with the cecum, which enables feces and other foreign material to gain entrance. However, owing to the liquid diet up to say two years, the condition is somewhat uncommon in early life. After

about two years of age, the more active life of these young subjects predisposes to trauma. To these we have added the proverbial tendency to dietetic indiscretions, the customary frequency of catarrhal diseases and the exanthemata; finally the lymphoid structures of the body are in a state of unusual activity.

The disturbances of the digestive tract, particularly constipation and diarrhea, appear to be predisposing causes in many instances, as do infectious diseases—though less often. The direct, or exciting, causes are obscure, though any factor which lessens the lumen of the appendix will, of course, favor stagnation of the contents and allow bacteria to penetrate the wall of the organ from the mucosa. The organisms most frequently encountered are the colon bacillus and the streptococcus. Moreover, the stagnation quickly enhances the virulence of the bacteria. Nevertheless, we should not hold any one factor as at fault any more than in the case of adults.

First of all, in 1,582 reported cases, 144 were "in children" (Deaver LaRoque). In three series, 68 were from new born to ten years (Fitz Matterstock), and 60 from three to thirteen years (Gray Mitchell). According to Clopton, of the cases in the previous eighteen months at the St. Louis Children's Hospital, 9 per cent were in the first five years; 54 per cent from six to ten; and 37 per cent from eleven to fifteen years.

Coming now to more specific figures, I have collected 16,571 cases (22 authors, Sprengel, Berard-Vignard, et al.), with the following incidence:

0 to 5 years	400
6 to 10 years	1,376
11 to 15 years	2,696
16 to 20 years	2,281
Over 20 years	9,818
	16,571

The youngest patients I have come across in the case-reports are three weeks (Porak), four weeks (Albrecht), five weeks (Bamberg), six weeks (Goyens), and four of seven weeks (Demme, Elder, Blumer-Shaw and Fenger). Several years ago Jackson gave the details of a baby, 40 hours old, who died from accidental bichlorid poisoning, and at necropsy the appendix was found:

"Much elongated and congested lying upon the cecum and bound down upon it by numerous and firm adhesions. The surfaces of the appendix where it is reduplicated upon itself are firmly bound together. The small intestine and the colon above the ileo-cecal opening present no evidence of inflammatory action."

However, I believe the consensus of opinion is against regarding this as an example of appendicitis arising in fetel life. There are several instances in which the inflamed appendix has been found in hernial sacs, but owing to the uncertainty of the actual cause, these have not been included in the foregoing tabulation.

My own series of cases is as follows:

6 months	1
1 to 2 years	4
2 to 3 years	3
3 to 4 years	3
4 to 5 years	10
5 to 6 years	7
6 to 7 years	16
7 to 8 years	5
8 to 9 years	3
9 to 10 years	5
	57

In females the appendix is usually permitted a more free blood supply, owing to the proximity of the ovarian vessels, thus accounting for the less frequent incidence in that sex. Of the 2,305 cases I have tabulated, 1,424 were in boys and only 881 in girls.

Anatomic Considerations: Sprengel gives the following average measurements of the appendix in infancy and childhood:

Newborn	5.60 ccm.
1 to 5 years	7.66 ccm.
5 to 10 years	9. ccm.
10 to 20 years	9.75 ccm.

Hence it is relatively longer than in the adult.

The organ in the child is somewhat funnel-shaped, i. e., larger at the junction with the cecum. As regards location it is found more downward, inward and deeper, being often accessible to rectal palpation (Kelley).

In structure the coats are comparatively thin and delicate, especially the submucous one. This accounts for the rapidity with which perforation takes place.

Pathology. Since the changes induced are similar to those in the adult for all intents and purposes, this aspect of the subject calls for little notice. We find all stages of inflammation may be met with, from the simple catarrhal type to gangrene *en masse.* According to Alsberg, hemorrhagic foci are common in the mucosa, the epithelial lining is loosened, frequently destroyed in great part. The solitary glands are thickened and strewn with polymorphonuclears. The de-

gree of the inflammatory process increases from within out—edema is present in the submucous coat, occasionally in the muscularis, the blood vessels are engorged with leukocytes. The serous coat in addition to being congested, is frequently covered with a whitish deposit of fibrin.

Symptoms. While appendicitis in patients over ten to twelve years, or so, does not vary decidedly from the cases seen in adults, in younger children, especially infants, it is no doubt often overlooked. In the latter class we are often unable to determine the exact site of pain and tenderness, or even if these be present at all.

Of the famous triad of symptoms emphasized over and over again by the late J. B. Murphy, pain, vomiting, tenderness and rise of temperature, the second seems to be the most common as well as an early manifestation and should arouse suspicion of appendicitis, especially when followed by tenderness and rigidity, and constipation. It tends to persist even when the stomach is empty. Constipation is not so typical a finding as in adult subjects, though to be sure it is generally encountered. On the other hand, diarrhea is not infrequent and generally signifies a less-severe type.

As just observed, localization of the pain in infants and young children is extremely difficult or impossible as the small patients cry as soon as touched. Careful and repeated efforts should be made to allay the suspicions and fears of the child and secure its co-operation. This is especially necessary in rectal palpation which gives a wide scope of the lower abdomen, and should invariably be employed.

The typical pain in the right iliac fossa is not apt to be prominent, and my patients seemed to suffer intense pain generally distributed through the abdomen. When the purulent focus can be palpated through rectum or vagina, with the hand on abdomen intense pain may be established.

Rigidity of the abdominal wall is important because it cannot be controlled by the child. It was quite marked in all my cases. In addition, hyperesthesia of the skin can often be demonstrated. Rise of temperature is probably higher than in grown persons, but the exceptions are so numerous that much reliance cannot be placed on fever.

A leukocytosis was present in all my cases and was naturally of much help in the diagnosis, especially of the suppurative form. The count, however, was noticeably low, considering the nature of the infection.

Flexion of the right knee and of the thigh of the same side on the abdomen was a prominent feature of my cases. If allowed to stand or walk they bend over to the affected side.

Complications. General peritonitis as a consequence of appendicitis is much more frequent than in adults; this is due to the comparative thinness and delicacy of the coats of the organ, allowing, in turn, bacteria to reach the serious covering so rapidly that there is no opportunity for protective adhesions to form. The localized form of appendicitis is also found.

Ruptures often supervenes as early as 24 hours, if localized peritonitis gradually makes itself prominent with fever and general toxemic symptoms. This abscess often lies low in the pelvis and is detected much better by palpation through the rectum.

There may be suppurative foci at a distance, e. g., in the liver, lungs, etc. On account of the relatively greater length, adhesions may follow to the surrounding structures, chief of which are the ovary and the bladder; the latter has even been perforated.

While not exactly complications, MacCarty of the Mayo Clinic, in his examination of 2,000 appendices some years ago, 1,005 of appendicitis alone, the remainder with other conditions, stated that obliteration of the lumen may begin as early as five and be completed by ten years, and carcinoma has been found as early as five years. Several years previous, Ribbert examined 400 appendices and found 99 partly or totally occluded. From one to ten years obliteration was present in 4 per cent and increased up to 58 per cent from seventy to eighty. The youngest subject in which it was found was one of five years.

Diagnosis. Since children seldom are affected with gastro-duodenal ulcers, disturbances of the gall-bladder, bile ducts, or the pancreas, or salpingitis, at first sight it would seem the diagnosis should be arrived at reasonably quickly. But, as already pointed out, the symptoms are often obscure, while the different location of the appendix adds more difficulties.

If seen early, appendicitis—especially in very young subjects—is most apt to be confused with impaction of feces in the beginning of the large

intestine (cecum and ascending colon), and with intussusception. The symptoms of impacted feces in the cecum rather suggest colic,—spasmodic pain with neither pain nor tenderness in the intervals. In appendicitis, however, the pain is constant, while deep pressure shows marked tenderness.

So far as intussusception is concerned, in the first place it is uncommon after infancy. Any way it can hardly be confounded,—an infant or child in apparent good health is suddenly seized with colic-like pain; after straining blood and mucus are voided. The sausage-shaped swelling can usually be detected in mid abdomen or on the left side; there is no rigidity, or temperature at the start. Examination per rectum often affords much information as to the presence of a purulent focus; the apex of the intussusception may be felt. Moreover, the pain is referred, as a rule, to the umbilicus or to the site of the intussusception, not to the right iliac fossa. There is absolute arrest of gas and of the fecal current; vomiting sets in early and soon becomes stercoraceous if no relief is afforded.

Another common simulation (enterocolitis) is afforded by the sudden onset of vomiting with pain and diarrhea. Again, appendicitis occasionally is present with enterocolitis.

In the beginning of acute indigestion the symptoms often mimic appendicitis, but while there is frequently a marked rise of temperature, other constitutional manifestations are not so prominent, and the pain is not so severe.

Pybus observes that while peritonitis and distension suggest intestinal obstruction fever points to an inflammatory lesion. In peritonitis rigidity and tenderness are marked; in obstruction there is little or no rigidity, and increased peristalsis can often be detected.

In the everyday intestinal colic there is neither local tenderness nor rise of temperature, while only a short interval elapses before the manifestations subside.

With so-called "periodic vomiting," there is no local tenderness, neither is there any rigidity of the muscular wall.

Megacolon (Hirschsprung's disease) while attended by acute colicky pain, constipation and so on, should be recognized by the enormous size of the abdomen, as well as by the visible peristalsis.

In short, as Garrod expresses it, constant pain in the right iliac fossa, tenderness corresponding with the area of pain, involuntary muscular rigidity, an accelerated pulse rate, and an abnormal temperature are pathognomonic of peritonitis in that region, but the appendix is not necessarily the starting point. A diseased Meckel's diverticulum, a Fallopian tube, a breaking-down lymph node in the ileocecal angle, or a primarily pneumococcal-rheumatic, or tuberculous peritonitis starting in that region may give rise to a similar grouping of symptoms and signs. He adds a precise diagnosis cannot be arrived at until laparotomy has been performed.

"In acute tuberculous peritonitis, especially in the right lower quadrant, in addition to the fever, tenderness and rigidity, a mass may be found composed of tuberculous omentum or mesenteric glands" (Pybus).

Early involvement of the spinal column may set up severe pain, which may be referred to either side of the abdomen. However, pain only follows some movement of the vertebrae.

Hipjoint disease should rarely cause much uncertainty as symptoms on part of the intestine are lacking, while the well-known arching of the spine when the leg is fully extended, the referred pain in the knee joint, and the restricted motion in the hip itself render further assistance.

Occasionally cystitis induced by the *Bacillus coli* sets up vomiting, rise in temperature, and parumbilical pain; it should be ruled out by urinalysis, which must be frequently repeated if the first is negative. Vesical symptoms may be produced in chronic cases by the long appendix habitual to children, becoming adherent to the bladder.

By far the most difficult type of case for differentiation is that where the pain felt in the iliac fossa does not originate in that locality, but is referred from some more distant focus.

And of the lesions elsewhere probably lobar pneumonia gives rise to uncertainty in most instances. Quite recently Adams and Berger have considered this phase of our subject, based on children from two to fifteen years old admitted to the pneumonia service of the Boston City Hospital. They have never seen appendicitis mistaken for pneumonia, on the other hand, the most common error is wrongly diagnosing lobar pneumonia as appendicitis. The total series of

lobar pneumonia patients comprised 145 cases, of which less than half (66) were sent in with the diagnosis of broncho, or lobar pneumonia, while 25 were either admitted with a diagnosis of appendicitis or about to be operated on for that condition when seen by the pneumonia service. For the purposes of comparison 63 proved cases of appendicitis have been revived.

As a result of their painstaking investigations, the authors conclude:

A history of cough or pain in the chest points toward a diagnosis of pneumonia, but the absence of respiratory symptoms does not rule out this disease. A history of vomiting, abdominal pain and diarrhea is of no value as these occur as frequently in pneumonia as in abdominal conditions. The pneumonia patients always seem more ill and present a characteristic general picture not seen in the abdominal cases. If recognized, this is a very important differential point. Pneumonia patients show much more of a systemic re-action, as seen by pulse and temperature chart, than do the abdominal cases. Careful examination of the lungs will frequently reveal a small area suggesting early solidification; but if it is located in the upper half of the chest, or in patients who do not otherwise present the picture of pneumonia, it must be interpreted with caution. Abdominal tenderness and spasm are relatively frequent in pneumonia, but are of a type dissimilar to those found in acute abdominal conditions. A high leukocyte count favors the diagnosis of pneumonia, except when peritonitis or appendix abscess is suspected, in which case it is of no value in differentiating the condition from pneumonia.

Prognosis. This is favorable for the less severe examples of acute catarrhal appendicitis, but for reasons already given suppuration and formation of purulent foci are common in these young patients. Moreover, they have but little resisting power to this—and other—acute bacterial invasion; and in turn, the younger the patient, naturally the less the resistance. Given an early diagnosis and an equally early intervention, the prognosis is favorable. (The mortality after operation is given in the next section.)

Treatment. The treatment of acute appendicitis in children, as in adults, connotes operative measures. Here I am in thorough accord with Deaver's teaching of some years back:

The time to operate, then, is before the storm breaks, and while the noon-day quiet holds the hill. Twenty-eight of the appendices in my series were ballooned with pus, and on the point of exploding, when removed. Such an organ, like Vesuvius, threatens the entire peritoneal cavity. A unique feature of appendicitis, up to and during this stage, is that the entire area of acute inflammation and phlegmon can be removed with nothing but benefit to the patient. Where else in the body is such a thing possible? Can a digit, the seat of a felon be amputated with propriety? Can a pyosalpinx be removed with the same disregard for the value of the organ? Can even a surface phlegmon, as a carbuncle, be removed *in toto* in a similarly satisfactory manner? Inconceivable! Here, then, is an organ which, together with the disease that has attacked it, can be ablated without depriving the patient of an organ or tissue of any recognized value.

Deaver adds that the post-operative treatment is highly important, and begins immediately on removal from the operating table. When drainage has been necessary, the child should be placed in the Fowler position, though not longer than 36 hours, for fear the coils of bowel crowding the pelvis "by gravity, adhere to each other and cause intestinal obstruction." Enteroclysis, I am sure, is most beneficial for pus cases. Nausea, spitting up, and vomiting after operation, usually yield to the stomach-tube. If these are persistent, however, and if there is a sudden, severe pain becoming paroxysmal, these are the initial symptoms of obstruction.

The mortality in the 500 cases of Deaver was 4.6 per cent, and in Clopton's series, less than 4 per cent. In the 310 operations done by Riedel, the mortality was 16.4, and in those performed at the Giessen clinic, tabulated by Naumova, even higher (17.1%) for those from one to five years, for those in the next decade, however, it fell to 7.6.

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THE MODERN CONCEPTION OF ACIDOSIS*

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Inasmuch as the chemistry of acidosis has in recent years suffered considerable revision, it has seemed to the writer not out of place to review this phase of the subject in as intelligible a way as possible. Without a clear conception of what is meant by hydrogen-ion concentration, buffer salts, and similar terms, much of the modern literature must remain very vague for the physician who has not kept in touch with the newer chemical terminology. Therefore at the risk of criticism for explaining what may seem too elementary, I shall call your attention to the subject of acidimetry, before discussing the particular bearing which this may have on biologic processes.

All chemical substances may be divided into two main classes, electrolytes and non-electrolytes. The former in solution are conductors of the electric current and are decomposed by it, the latter neither conduct the current nor undergo chemical change from its action. The hypothesis given in explanation is this—that electrolytes in solution become dissociated into atoms or groups of atoms called ions, each bearing a positive or negative electrical charge, and that when an electric current is passed through the solution, the positively charged ions stream toward and collect at the negative pole, and the negatively charged ions at the positive pole. Thus, in solution sodium chlorid is dissociated into positively charged Na ions and negatively charged Cl ions; magnesium sulfate into positive Mg ions, and negative SO_4 ions. On the other hand, the molecules of substances such as sugar, alcohol, gelatin, etc., are not dissociated in solution, and hence neither conduct the current nor are decomposed by it.

Acids are dissociated in solution, and on the degree of their dissociation depends their acidity. In other words, the true acidity of an acid depends on the number of free hydrogen ions in the solution, and likewise the alkalinity of a base on the free hydroxyl ions.

Now this is quite different from the titrable acidity or alkalinity. 1 cc. of normal H_2SO_4 and also 1 cc. of normal CH_3COOH are each exactly neutralized by 1 cc. of normal alkali. Yet it is evident that sulfuric acid is far more active an acid than is acetic acid. The explanation of this is as follows. In the solution of the poorly dissociated acetic acid, as each H-ion is neutralized, another is dissociated to take its place, until finally all are dissociated and neutralized.

In the solutions of each of these two acids, which we shall take by way of illustration, there exist both ions and undissociated molecules. The difference of actual acidity is due to the greater degree of dissociation in the solution of acetic acid. This we may express diagrammatically as follows:

DISSOCIATION OF ACIDS

Diagrammatic only, to show the difference between a strong and weak acid.

Solution of Sulfuric Acid

H H H H SO_4 SO_4
H H H H SO_4 SO_4 H_2SO_4
H H H H SO_4 SO_4

Solution of Acetic Acid

CH_3COOH CH^3COOH
H CH_2COO CH^3COOH CH_3COOH
CH_3COOH CH^3COOH

It has been found that the electrical conductivity of a solution is a very accurate index of the amount of dissociation of the molecules of the solute, and hence this measurement will show the real acidity of an acid, namely, the H-ion concentration in the solution.

Pure distilled water is taken as the substance whose H-ion concentration shall constitute neutrality. Water is dissociated to a very slight extent, and this reaction proceeds to an equilibrium so that

$$\frac{(H)\ X(OH)}{(OH)} = \text{a constant}$$

The brackets indicate concentration per liter of ions or molecules respectively.

This constant, at a temperature of 21°C (for temperature is also a factor) equals the very small fraction, .00000000000001. Now evidently, since there are equal numbers of H and OH ions, the H-ion concentration, in accordance with the above equation will be the square root of the constant. (H) equals .0000001.

It is also evident that solutions with a greater concentration of H-ions must be acid, and those with a smaller concentration, alkaline, and furthermore, that, since the OH-ion concentra-

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tion varies inversely with the H-ion concentration, the latter may be used as an index, not only of acidity but of alkalinity.

The conventional terminology is that proposed by Sörensen, in which the logarithm of the concentration, without its minus sign, is used. This avoids the cumbersome fractions which would otherwise be necessary.

For instance, in distilled water, the H-ion concentration is one ten millionth. The common logarithm of this fraction is —7. Therefore a P_H of 7 indicates neutrality, one of less than 7, acidity, and one of more than 7, alkalinity.

The reciprocal relations of the H and OH ion concentrations are shown as follows:

P_H = 0	1.	.00000000000001
H-ion	Concentration	OH-ion Concentration
1	.1	.0000000000001
2	.01	.000000000001
3	.001	.00000000001
4	.0001	.0000000001
5	.00001	.000000001
6	.000001	.00000001
7	.0000001	.0000001
8	.00000001	.000001
9	.000000001	.00001
10	.0000000001	.0001
11	.00000000001	.001
12	.000000000001	.01
13	.0000000000001	.1
14	.00000000000001	1.

The acidity as measured electrically can then be transferred to this logarithmic scale in the following way.

Suppose that it is found that decinormal HCl at 18°C, is ionized to the extent of 84%.

.1 x .84 = .084 gms.

$$\frac{\text{Log } 84}{1000} = \text{Log } 84 - \text{Log } 1000 = 1.92 - 3.00 = -1.08$$

$P_H = 1.08$

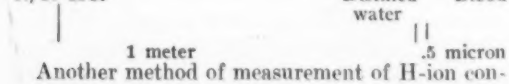
Similarly, suppose that decinormal acetic acid is ionized to the extent of 1.36%

.1 x .0136 = .00136

$$\frac{\text{Log } 136}{100{,}000} = \text{Log } 136 - \text{Log } 100{,}000 = 2.133 - 5.000 = -2.867$$

$P_H = 2.867$

The foregoing will also serve to illustrate the enormous difference between the H-ion range of solutions in use in the laboratory and those encountered in the human body. The difference in acidity between the decinormal HCl and distilled water is about 2,000,000 times as great as that existing between the blood and distilled water. On a scale 1 meter in length the latter distance would be microscopical.



Another method of measurement of H-ion concentration should be mentioned in passing, that by use of indicators. Various indicators change color at various P_H values, and by comparing the color of the mixture of the indicator and the unknown with mixtures of the same indicator and solutions of known H-ion concentration, the value of the unknown can be determined.

It is very difficult indeed to keep a solution of acid, or the least trace of alkali in the walls of concentration. The merest fraction of a drop of acid, or the least trace of alkali in the walls of the containing vessel will change this enormously. However, recourse is had here to a procedure, which, as we shall see later, has the most important bearing on the regulation of acidity in the human body.

If to a solution of sodium acetate some HCl be added, it is found that the H-ion concentration is but slightly affected, much less so than if the same amount of acid had been added to distilled water.

What happens is explained as follows. Sodium acetate in solution like all salts, is almost completely ionized, so that on the addition of the strong acid, there will exist the following ions

Na CH_3COO H Cl

But acetic acid will not exist in solution largely dissociated. Therefore the CH_3COO ions unite with the H ions, and only as many are left ionized as would exist in an acetic acid solution. In other words, the acidity becomes not that of the stronger, but that of the weaker acid.

This is the so-called buffer or tampon action and is possessed by a number of substances, all of which have this in common, that they are the salts of weak acids, acetates, borates, carbonates, phosphates, etc.

Investigations of the P_4 value of the blood have shown that it is about 7.4, that is, slightly on the side of alkalinity. It is most remarkable that this is perhaps the most constant thing in biology. The cells of the body are capable of surviving marked extremes of temperature, nutritional disturbance, and other varying conditions, but live in a changed H-ion concentration they cannot. The constancy of the reaction of the blood is the *conditio sine qua non* of their existence.

The water of the sea bears a close resemblance to the human blood in this respect, and as pointed out by MacCallum, it seems that the

cells of the land animal still require a habitat similar to that of their protozoon ancestors.

However in all body metabolism acids are being formed. The acid change seen in the excised contracting muscle of physiologic experiment is typical of every vital process. Therefore some mechanism must be at hand for the neutralization and removal of these acid metabolites, else their accumulation in the blood must raise its acidity to a point lethal for cell life.

The factors involved are as follows.

Carbon dioxid is constantly being excreted through the lungs. In solution as H_2CO_3 this gas is a weak acid, hence its elimination is one factor in the maintenance of neutrality.

Also, in some way which we do not yet understand, the kidneys are capable of excreting an acid urine from the neutral blood.

The NH_3 formed in the metabolism of proteins is used for the neutralization of these acid products. The NH_3 in the urine is just this amount needed. The rest is changed to urea.

And finally, the blood is well supplied with buffer salts which combine with the acid radicals for the time being until they can be excreted. These salts, chiefly carbonates and phosphates, together with the amphoteric colloids of the plasma have been shown to be exceedingly effective, especially in the particular combination in which they exist in the blood.

The buffer action of the carbonates is as follows. Pure sodium bi-carbonate in solution is slightly alkaline. Sodium carbonate is somewhat more alkaline. CO_2 is very slightly acid. A strong acid added to a solution of sodium bicarbonate will not acidify the solution more than would the addition of an equivalent amount of CO_2. A strong alkali will not render it more alkaline than would the addition of an equivalent amount of Na_2CO_3. It requires the addition of a very considerable amount of acid to such a solution to raise its P_H value markedly, whereas the smallest fraction of this would, if added to distilled water, raise its acidity enormously.

Mixtures of the phosphates act in the following way.

$$Na_2HPO_4 + HCl = Nah_2PO_4 + NaCl$$
$$NaH_2PO + NaOH = Na_2HPO_4\ H_2O$$

Alkaline phosphate reacts with acid to produce the acid phosphate and a salt.

Acid phosphate reacts with alkali to produce alkaline phosphate and water.

And thus the end effect of addition of strong acid or alkali to a phosphate mixture is the comparatively small difference in H-ion concentration between an acid and an alkaline phosphate solution. The kidneys normally excrete an excess of acid phosphate and thus the balance is maintained in the body.

The colloids of the blood have undoubtedly an important part in the maintenance of an even reaction of the blood, but the symptoms of acidosis are due to the loss of free circulating bases. Of these the carbonates are the most important, inasmuch as they are the carriers of CO_2 from the tissues to the lungs.

The reaction is as follows.

$$Na_2CO_3 + CO_2 + H_2O = 2NaHCO_3$$
In the tissues
$$2NaHCO_3 - CO_2 - H_2O = Na_2CO_3$$
In the lungs

The above reactions show the extreme importance of these salts. Without them the CO_2 of the tissues cannot be transported. The bicarbonates are slightly more acid than the carbonates, and this is the ground for the theory that the H-ion is the real stimulant of the respiratory center.

Once the pathological chemistry of acidosis is understood, the symptoms are easily explained. Hyperpnea, or air hunger is the cardinal sign. With this, in contradistinction to the dyspnea of asphyxia, there is no cyanosis, and the blood is rather extraordinarily red and the mucous membranes pink.

The tissues are asphyxiated because internal respiration cannot take place. The hemoglobin of the blood is saturated with oxygen but none can reach the tissues because the CO_2 cannot be returned. The fire of the body cells is smothered in its own ashes.

There has been some quibbling over the name acidosis, and the term ketosis has been suggested for that form occurring in diabetes. However all forms of acidosis are the same from practical standpoint, because the same mechanism is at work, be the acids endogenous, as in diabetes, or exogenous, as in acid poisoning.

The only distinction of practical import is that in ketosis, the tests for acetone and diacetic acid in the urine are positive. However it should be noted that this is only presumptive evidence of the presence of B-oxy-butyric acid, which is the real villain. In fact, some cases of diabetic acidosis have been reported in which acetone and

diacetic acid were absent. Unfortunately there is no test in common use for β-oxy-butyric acid.

We may also dispose of the terms compensated and uncompensated acidosis, by remembering that such a distinction is a purely quantitative one. Fatal acidosis results from a gradual and progressive loss of body bases, and it is probably for this reason that treatment is so important before their store is exhausted. Every clinician knows that acidosis is much more easily prevented than cured.

Diabetes is of course the disease in which acidosis is most often seen, but it is not the purpose of this paper to discuss the metabolism of this disorder. Suffice to say that the symptoms of acidosis must be the same, from whatever cause, on account of the underlying chemistry.

A definite acidosis has been found in nephritis, chiefly in the acute and chronic interstitial types. Here it is apparently due to the inability of the kidneys to excrete the acids arising from normal metabolism.

Sellards found often a severe acidosis in Asiatic cholera. Two explanations are offered, the acute nephritis which so often supervenes, or the loss of bases in the evacuations.

Similar to this must be the acidosis observed by Howland and Marriot in certain cases of severe diarrhea in infants and young children. Why these should be so fatal in spite of alkaline therapy is a problem as yet unsolved.

Acidosis has been described in other conditions, and that following chloroform or ether narcosis should be mentioned.

Let us now consider what chemical tests are at hand to confirm the clinical diagnosis. Measurement of the H-ion concentration of the blood has been proved inadequate, as Folin, on *a priori* grounds, predicted.

If the term acidosis means an acid condition of the blood, then it almost never exists in the living animal. Even the most delicate measurements show only the very slightest rise in blood acidity, and then only just before death. Cell life is incompatible with a rise in H-ion content, and before this can happen every available bit of alkali in the body must be used up.

Estimations of the ammonia percentages in the urine do not furnish very reliable criteria, and tests for the ketone bodies are only presumptive signs. They are valuable merely as the danger signal that acids are being formed in excess, and that depletion of the body bases is threatened.

Fairly definitive proof of the presence, and estimation of the degree of acidosis may be had in two ways, by determining the CO_2 tension of the alveolar air, or the CO_2 combining power of the blood. The CO_2 tension of the venous blood and of the alveolar air must be the same since diffusion exists between the two at all times in the lungs. Hence a lowered tension in the latter means, with few exceptions, acidosis. The exceptions are easily differentiated clinically.

Van Slyke's method of determining the CO_2 combining power of the blood has the advantage of requiring no co-operation by the patient in the collection of the specimen. Briefly, the blood-serum is exposed to an atmosphere rich in CO_2, 1 cc. is measured into a special apparatus, sulfuric acid is added, and the liberated gas is measured, and corrected for temperature and barometric pressure.

Tests by either of these methods give results which are quite comparable.

Certain strictures on these tests were made by McLeod, who considered the test of Sellards the optimum one. This is extremely simple, and involves no more than giving the patient 5 gms of sodium bi-carbonate, and testing the reaction of the urine. In patients with a normal content of bases the urine will promptly become alkaline to litmus. This is considered to be a more definite proof of the existence of a sufficient amount of base in the body tissues as well as blood.

To those however, who believe that the use of alkali in diabetes is deleterious, this test involves a bad method of treatment. One thing is certain, that limitation of fat in the diet has done more to avoid acidosis in this disease, than any treatment with carbonates.

Sound clinical experience must take precedence over laboratory evidence, for too often other factors lie hidden, of whose existence the cock-sure experimentalist is unaware. However, in general, the facts of physiology and pathology are the basis of rational diagnosis and therapeusis, and if these have been made clear in their relation to this one morbid condition, the purpose of this paper has been accomplished.

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ACUTE ABSCESS OF THE NASAL SEPTUM: CASE REPORTS*

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Acute abscess of the nasal septum is a condition very infrequently encountered. Particularly is this true when the abscess is of idiopathic origin or when it is associated with or is a sequela of an acute infectious disease. H. L. Lack places the proportion of septal abscess in all cases attending a special clinic as 1 to 2,000 cases. Text-books on nose and throat only give a passing mention of this condition.

Acute abscess of the nasal septum results from local processes as trauma, after operations, or as a complication of infectious diseases, such as typhoid, influenza, sinus suppuration, smallpox and tuberculosis. It is usually found in children following a fall or blow on the nose, when a fracture of the nasal septum occurs with formation of a hematoma between the perichondrium and septum. Pyogenic bacteria invade the hematoma thus converting it into an abscess. The cartilaginous portion of the septum in most cases becomes perforated or necrosed chiefly on account of the pressure and lack of nutrition brought on by the abscess elevating the mucoperichondrium. Not all cases of hematoma become infected. Kicer reported 5 out of 13 cases became abscessed.

The clinical findings in acute septal abscess are quite characteristic. The constitutional symptoms may be severe. Very high temperature may prevail: pain across the bridge of the nose is severe. The nose externally is markedly swollen, red and hot. On elevating the tip of the nose, anterior rhinoscopy reveals very reddish bulging tumors, occluding both nostrils. Examination with a probe discloses that the swellings emerge from both sides of the septum and are boggy to the touch. The nasal stenosis particularly forces the patient to seek relief. In the differential diagnosis hematoma and ulcerative syphilis of the septum are to be considered. However, the diagnosis between these two conditions and abscess should offer no difficulty.

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The outcome of acute nasal septal abscess is usually favorable. Meningitis or abscess in the anterior fossa of the skull may develop via the anterior and posterior ethmoidal vessels. In Cline's and Culbert's cases septicemia followed from the pus being absorbed in the septum. In Richard's case several months ensued before the patient was strong enough to work. The sequela to be feared is saddle-nose. However, as long as some cartilage remains as support such is not probable. The treatment of septal abscess is surgical; to provide proper drainage of the pus and debris. Voorhees makes a Killian initial submucous incision and a second incision running near and parallel with the floor of the nose from the middle point of vomer to almost the first incision. The mucoperichondrium is reflected and the entire abscess cavity curetted with flexible curettes until all detritus is removed. Keiper considers it bad surgery to curette an abscess cavity.

The number of cases of septal abscess in all, reported in the literature is comparatively very small. Grunwald reported four cases, three in children and one in a young man. Jurasez reported a case where the septum necrosed with collapse of the dorsum of the nose. Ballenger reported a case due to removal of a septal spur, Parsons of a case due to anthrax. J. A. M. Hemmeon reported two cases, one in a child two years old after a fall, the other in a male 26 years old. In the latter case the only history was a syphilitic infection five years previously and symptoms of increasing obstruction in both nostrils. A bilateral swelling of the septal mucous membrane filled both inferior meati. There was no fever. An incision evacuated pus and with due attention the condition was cured. J. B. Horgan of Cork, cites a case of septal abscess of six years duration following a fall from a horse. An irregular thickening anteriorly obstructed both nostrils. He thought it was a fracture with dislocation of the septum. On making an incision thick yellow pus oozed out with collapse of the septal thickening. Further inspection disclosed a very small and attenuated remnant of cartilaginous septum and that superiorly and anteriorly in the region of the columella. The rest of the cartilage and part of the bony septum were disintegrated and

in the form of small loose spicules. J. Price-Brown of Toronto, reported a case in a boy ten years old, who was struck on the nose. On the 25th day he was called to see the boy and on examination found a septal abscess with much destruction; but the triangular cartilage was not entirely destroyed so that no saddle-nose resulted. Killian reported a case of septal abscess following a dental abscess. Kuttner has recorded three cases, and Wroblewski five cases as idiopathic in origin. Glassburg in a recent number of the J. A. M. A., cites two cases, one in a boy due to picking the nose, the other in a young man as a result of a blow on the nose.

Acute abscess of the nasal septum complicating influenza is uncommon.

REPORT OF CASES

Mrs. S., 34 years old, married, has two children; was referred to me by Dr. H. Schneider. Her past history was negative including the ears, nose and throat. She had been in good physical health until Feb. 5, 1922, when she developed influenza. At this time there existed a mild wave of the "Flu" throughout the city. Mrs. S. was in bed two days when the children and husband successively came down with the disease within the next two days. Although she had a slight elevation of temperature and felt weak, she was forced to attend the children. On Feb. 9, or 4 days after she became ill, she began to experience pain in her nose. Her mind more concerned about the rest of her family, she paid little attention to this symptom. The next day there was a slight redness and swelling of the nose. The pain became more pronounced and her temperature rose as the redness and swelling increased in severity. Also breathing through the nose became more difficult. When I saw her on Feb. 12, or three days after the nose symptoms developed, the lower two-thirds of her nose was greatly swollen and red, her face was edematous, and the patient looked septic. Her temperature was 103.5° F. and at first glance the picture suggested erysipelas. The patient complained of severe pain across the bridge of the nose and inability to breath through the nose. Anterior rhinoscopy revealed reddish masses occluding both anterior nares. With a Freer blunt elevator the masses were seen to originate from the anterior portion of the septum, were tender and somewhat boggy to the touch. The swelling was more pronounced on the right side. There was no sign of an abrasion. I made a Killian initial submucous incision on the right side and a greenish yellow pus spurted out under pressure. After several teaspoonfuls of pus were evacuated both sides of the septum shrunk. I inserted a Freer blunt elevator into the cavity and found a good share of the cartilage had been destroyed. A gauze drain was inserted. The drain was changed daily for five days until no pus was present, when the incision was permitted to close. The nares were cleansed with an alkaline nasal spray. The pain, redness and swelling quickly subsided and the temperature reached normal in a few days after the incision. The laboratory report of a smear of the pus showed short chains of streptococci and staphylococci and many pus cells. Four days after the incision closed Mrs. S. phoned me, she was again having fulness in the nose, but no pain or fever. Examination revealed boggy masses within the anterior nares but not so red and large as the first time. I made an incision as before and evacuated a bloody fluid with a few spicules of cartilage. A gauze drain was inserted. In a few days the cavity was clear and wound permitted to close. The last examination made three weeks later showed a slight deviation of the right side of the septum in its upper third, a condition which she probably always had. Enough cartilage remained to prevent a saddle-nose.

Miss E. K., 23 years old, seen in conjunction with Dr. S. Weiner, developed influenza on September 25, 1922. Five days later she began to experience some pain in her nose. Also a gradual stuffiness of both sides of the nose developed so that on the third day after entry of nasal symptoms her nose was practically occluded. Temperature ranged about 100.5° F. Externally little swelling and discoloration of the nose were present and a mild degree of sensis was evident. The nasal stenosis compelled her to seek relief. Anterior rhinoscopy revealed the findings described in the previous case. There was to be seen a slight depression over dorsum of nose, a condition which the patient claims did not exist prior to this illness. An incision was made just behind the muco-epidermal junction on the right side of septum and a mixture of blood and pus was evacuated. The greater portion of the septal cartilage was found necrosed. The incision was kept open with gauze drains and allowed to close on the fifth day. Two weeks later when the patient presented herself the depression on the nose was very noticeable. In this case there had been enough destruction of the sental cartilage to produce a saddle-nose although the symptoms were not so acute as in the first case where no sequela resulted. Two Wassermann tests taken within a month were negative.

These two cases of acute abscess were unusual complications of influenza.

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A PLEA FOR THE ERADICATION OF CHONIC ENDOCERVICITIS.*

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The importance of the early recognition of chronic infections of the female pelvis is fast becoming manifest in a large percentage of patients. Most of them complain of backache, leucorrhea and various constitutional symptoms. You get the same syndrome in many cases of chronic endocervicitis as you do in other foci of infection, namely chronic tonsilitis, chronic gall bladder infection, dental infections, etc. The most common of these symptoms are lumbo-sacral backache, leg cramp, migraine, debility and wasting of body physically, mentally and morally. True, many cases are practically symptomless, and apparently suffer little even when deep ulceration and glandular involvement exist. But the same may be said of many chronically diseased tonsils, dental infections, etc.

Sooner or later chronic endocervicitis must develop much pelvic pathology. Aside from the tissue changes of the cervical mucosa and its glandular element, the lymphatics, stroma, Nabothian follicles and periglandular connective tissue, the infection extends in the form of a cellulitis and travels upwards as an ascending lymphangitis, which undoubtedly is responsible for much perisalpingitis, ovaritis, peritonitis, uterine displacements and pelvic adhesions.

Owing to the peculiarity of the glandular structure and its secretions, the cervical mucosa is more prone to infection than the vaginal mucosa and the endometrium of the corpus uteri. One of its functions is to protect the endometrium of the uterus from bacterial invasion from the vagina. It might be compared to a lymphatic gland standing guard to the structure beyond.

Chronic endocervicitis is common among all classes and races of people. At first it is always acute and is so resistant to spontaneous healing and local treatment that it soon becomes chronic. It may be primary or secondary. Primary, when starting directly in the cervix and secondary when the infection comes from adjacent tissues. The cervical mucosa is subject to invasion of any or all bacteria that have their habitat about the vulva and in the vagina, and from pelvic cellulitis. The most frequent organisms found are the pus-forming bacteria, the staphylococcus, streptococcus, gonococcus, colon bacillus and, in some of the rarer forms, the tubercle bacillus, and spirochaeta pallida. Infection occurs either by direct bacterial invasion of the mucosa and its glands or by an atrium of infection being opened by lacerations during childbirth, dilitation, operations, forced abortions, curettage and ill-fitting pessaries. But these traumatic injuries will not cause chronic endocervicitis unless they become infected. Acute infections are often overlooked or discharged too early, unless the leucorrhea is profuse, letting the case run into the chronic type, which, without successful treatment, may be carried through life.

Reviewing the symptoms we have cases so mild as to show no discharge or symptoms and are only recognized when found by examination for other reasons. Mild cases that only show leucorrhea and slight backache before and after menstruation, and severe cases giving intermenstrual discharge and lumbo-sachral backache, tenderness of pelvic organs, abdominal distress, myalgias and wasting.

Leucorrhea is the prevailing symptom. (Some authors say all chronic leucorrhea is attended by some form of chronic endocervicitis.) It may be scant or copious, and ranges from a mucoid, viscid, transparent or opaque to a mucopurulent in character, depending on the virulence of the exciting organism, stage of progress, and amount of suppuration. The discharge is more profuse a few days before and after menstruation and seldom has much odor unless infected by the colon bacillus or is attended by sloughing.

Menstrual disturbances from blood and lymph stasis, muscular stiffening, induration and posterior cellulitis are often met with as menorrhagia and metrorrhagia.

Sterility is a frequent symptom and must be considered as an important one. The mildest cases of endocervicitis are often sterile. Even a small, thin plug of mucus in the cervical canal may be sufficient to stop the progress of the spermatozoon. Inflammation and hyperplasia are also important factors in causing sterility by occluding the cervical canal. Many barren women have become pregnant after being cured of

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chronic endocervicitis, which is sufficient proof of its causing sterility.

Let us preserve the female reproduction physiology. Youth being our greatest national asset, and with many of the endocervicitis cases sterile, these women become liabilities. We must strive to prevent this malady and institute the best available treatment for its cure.

The treatment must be divided into two phases: preventive, and the eradication of the focus of infection.

Under preventive treatment I would suggest that the medical profession not lose sight of the fact that the general public is clamoring for knowledge of health promotion. The time has passed for the layman to be totally ignorant in keeping his body physically fit. Mothers are demanding a fair knowledge of nursing and disease prevention for use in their homes. The average expectant mother is embarrassed by her ignorance and lack of knowledge pertaining to motherhood. It is due to our failure in practice and our schools to supply this knowledge that we have been given such a poisonous instrument as the Sheppard-Towner Bill.

How many mothers know how to care for their breast, nipples and organs of parturition after births? How many mothers know the correct technique of cleansing a baby's buttock and genitalia after soiling from bowel movements? True, millions of babies have grown into adulthood, fine physical specimens, without aseptic care; but there are thousands of dead, cripples, blind and diseased due to neglected cleanliness during early life.

The large majority of vulvo-vaginitis in babies and young girls is due to contamination from the rectum. These infections are hard to cure and many of them become chronic, lasting into puberty and womanhood as a chronic endocervicitis. I will relate one case of a nine-year-old girl, who had been afflicted with mucus colitis since she was an infant. She came to me complaining of itching and scalding of external genitalia and burning in the course of the vagina. She had a foul discharge at the time, and gave a history of having had three other attacks similar to this, except the discharge had had no distinct odor. After some external douching and applications had been applied for some days without improvement, it was thought best to make an internal examination, and to my surprise I found the cervix one large ulcerated mass. Luckily these children resist and stand these infections well, but there is not a doubt that most of the cases of endocervicitis found about puberty have a similar history.

The indiscriminate use of douches is becoming very unpopular and rightly so. Many women for the past few years are taking douches galore for no other reason than to prevent pregnancies and stop discharges caused by douches. Many discharging vaginas will become dry if the douches are omitted. No patient should use douches until they acquire and follow the correct technique for taking them. Many cases of cervical infection are caused by contaminated douche apparatus and solutions. Mothers are often guilty of advising their daughters to take douches for cleansing after menstruation. Cool soap suds externally is much safer and equally efficient. Hot soap suds bathing and douche tubes might easily lead to masturbation in young girls. All masturbators develop leucorrhea and probably none escape chronic endocervicitis. Every woman contemplating marriage should feel free to go to her family physician and get proper instruction regarding marital life. Further instructions as to the care of the genitalia should be given, since unclean and excessive coitus, non-aseptic douching, preventing pregnancies by their various ways, are most indicative of chronic endocervicitis.

The active treatment may be divided into palliative and surgical. The more rational is surgical, yet there are some cases that for various reasons cannot be treated surgically. Patients suffering with tuberculosis, chlorosis, anemia, diabetes, cardiac lesions, kidney and debilitating diseases should have nursing and constitutional treatment sufficient to enable them to undergo surgical treatment. This would consist of hygienic, dietetic, physical and medicinal. Under the medicinal treatment not forgetting the use of soluble iron arsenate or, even better in most cases, neo-salvarsan.

A knowledge of psycho-analysis is necessary in some of the nervous cases as many are improved by having their mental worries abated.

We cannot say much in favor of the various so-called local treatments. Tamponade and applying antiseptics and escharotics to the infected cervix are totally inefficient except perhaps in cases where there is only a slight erosion of the

external os. Sturmdorf, of New York, calls local treatments "medical tinkering," and a good name it is. Chronic endocervicitis associated with retroversion is often improved by tampon treatment if the position of the uterus is corrected and better drainage established. It is this result that probably has led many to think the treatment was efficient because retroversion is incident to chronic endocervicitis in a high percentage of cases.

The induction of foreign protein, ten per cent. phenol solution, and twenty-five per cent. alcoholic solution of distilled water into the mucosa and interstitial tissue of the cervix have been reported as helpful treatment.

Crisscross scarification deep into the area of infection and pressure swabbing with iodized phenol solution to the glandular pockets have proven helpful. An interesting article by Byford on "The Cure of Chronic Endocervicitis by Multiple Scarification," appears in the ILLINOIS MEDICAL JOURNAL of September, 1921.

Curing by partial and complete amputation of the cervix is not being considered any more, unless the cervix is diseased beyond reconstruction. The disadvantages of amputation of the cervix are too many to consider in this paper.

Schroder's operation for excision of the cervical mucosa, and Sturmdorf's cone operation for excision of the cervical mucosa by removing some muscular tissue with the mucosa, are successful in 65 per cent. of the cases. This leaves 35 per cent. of the cases operated on not cured. I believe the reason lies in the fact that in doing the operations we are not able to carry our excision high enough to get the entire infected area without going through the internal os. Every case of long-standing endocervicitis extends to the internal os, if not beyond into the endo-metrium of the corpus uteri. Therefore, it is indicative that in many of these operations a small area of infection remains. After a short time the vaginal mucosa that has replaced the cervical mucosa becomes eroded from the discharge and the patient may develop practically the same symptoms as before her operation. I would refer to an article by Byford, "A Neglected Form of Cervical Endometritis," ILLINOIS MEDICAL JOURNAL, November, 1920.

I wish to make special mention of a method of curettage I have been using in the treatment of chronic endocervicitis. It is a repeated dilatation and curettage, and unless the infection extends to and through the internal os it can be done by local anesthesia in one's office. Otherwise if the endometrium of the uterus is involved the patient should have general anesthesia and the uterus curetted also.

The patient is prepared exactly as for a major operation, and placed in the lithotomy position. The anterior lip of the cervix is grasped and held with Volsella forceps. Dilatation is done by uterine dressing forceps, or uterine sounds. It is seldom necessary to use a more forcible dilator. If the cervical canal is already open enough to use the curette, dilate more. The dilatation is helpful in expressing the mucus and infectious material from the glandular tissue. You can readily see after dilatation is completed that the mucosa is much thinner. Use the curette until you get the characteristic grating on the musculature, and until no more hyperplastic tissue is in evidence. Curette well up to the internal os. Be sure you remove all infected mucosa possible. Apply gauze pressure to the denuded area for a few seconds to stop oozing of blood. Pack the cervical canal with gauze saturated with 3 per cent. tr. iodine, letting one end extend through the vagina externally so the patient or nurse may remove it at the end of twenty-four or thirty-six hours, as you instruct. I instruct the patient or nurse to follow the removal of the gauze with one per cent. Dakin's solution douche. The cervix is packed in this manner every two days for four or five times, then twice a week for three weeks and once a week for four weeks. If there is any sign of the disease returning at the end of three months I repeat the dilatation, curettage and packing the cervix, and again at the end of another three months when necessary.

I have treated fourteen cases by this method recently, and only two have had the third operation; ten the second operation, and two were apparently cured at the first setting. I am not saying as yet that any are permanently cured. There has not been enough time elapsed to warrant saying cured. Some authors have said one thorough curettage cures, but I cannot say that from my experience. I must say, though, that the twelve cases that had one and two dilatation and curettage each are apparently cured at this time. They have no discharge, no backache; there is no cervical obstruction or constriction; they menstruate normally, and two have gone through

normal pregnancies. We will not consider this as the operation of choice but consider it worth trying and far superior to tamponade, frequent applications of antiseptics and escharotics, or trying to drown the disease by frequent douching.

UNUSUAL FOREIGN BODY IN EYE

W. D. Drake, M.D.
EFFINGHAM, ILL.

Mr. B., aged 65 years, living at Wheeler, Ill., appeared at my office Dec. 10, 1922, complaining of a sore eye; said he was looking for eggs in wheat patch three months previous, when he suddenly felt something in his eye, had some pain for a few days with lachrymation, consulted his family physician who assured him there was no foreign body in his eye, made his diagnosis of a mild conjunctivitis and gave him treatment for same. After several days, with no improvement, patient consulted another physician, who also told him there was no foreign body in the eye. In the meantime two other physicians examined the eye and assured him that the diagnosis made by the first physician was correct and that he only had conjunctivitis. On examination I found some conjunctival injection with lachrymation, pupil contracted, tension normal. Patient complained of some pain in the eye, with lids adherent in the morning. Examination with loup showed nothing on the bulbar conjunctiva. On everting the upper lid nothing was detected; on doubly everting the tarsus, I found a small body of granulation tissue, from which pus was exuding. From a small incision with Graefe knife in the granulation tissue I extracted the seed part of a weed, the pod measuring 5 mm by 3 mm with five sharp prongs on the external end. This case as reported emphasizes how necessary it is to make a thorough examination of the retro tarsal fold when a patient complains of foreign body in the eye. Also that a foreign body of considerable dimensions can be concealed in the retrotarsal fold without giving much pain.

HE GOT IT!

Patient: "What I need is something to stir me up—something to put me in fighting trim. Did you put anything like that in my prescription?"

Doctor: "No, you'll find that in the bill."—*Medical Standard.*

Society Proceedings

CARROLL COUNTY

May 9, 1923, the Carroll County Medical Society met at Mt. Carroll. Dinner was served at the Raisch Cafe at which twenty members and visitors partook. At 2 P. M. the regular program started and was much enjoyed by all present.

Election of officers resulted in Dr. Alexander Gray of Savanna being elected president and Dr. Mary Sagner of Thomson secretary for 1923, Dr. McGrath of Savanna, delegate, and Dr. Schreiter, alternate.

Dr. Hopkins, D. D. S., of Sterling, read a very interesting paper on "Gas-Oxygen Anesthesia in Major Operations."

Dr. A. A. Calkins, of Chadwick, gave a splendid paper on "Foreign Bodies in the Urinary Bladder" with history of case in his practice with recent operation. The radiographs were exhibited as well as the hair pin removed. This paper was much discussed.

Dr. E. P. Sloan, President of the Illinois State Society, was present and gave a mighty interesting discourse on Goiter Surgery and showed his operative technique by means of moving pictures. Dr. Sloan's presence was an inspiration to the members of the society and his address and discussions were much appreciated.

Thirteen members and five visitors were present.

G. E. Mershon, Sec.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, May 2, 1923

1. Prophylaxis of Tuberculosis—Allen J. Hruby.
2. The Discrepancies Between X-Ray Plates and Physical Findings in Pulmonary Diseases—Charles E. Ide, Milwaukee, Wis.
3. Treatment of Tuberculous Conditions of the Eye—Wm. E. Gamble.

Regular Meeting, May 9, 1923

1. Distraction in Fractures with Two Steinmann Nails—Weller Van Hook.
2. Immunity as Related to Surgery—Emil G. Beck.
   Discussion—Alfred C. Croftan, Charles A. Elliott and E. Wyllys Andrews.

Regular Meeting, May 23, 1923

1. Urgent Surgery of the Stomach and Duodenum.
   General Discussion—Karl Meyer.
2. A Simplified Method for the Diagnosis of Dis-

eases of the Rectum and Anus (Its Application to Treatment)—J. Rawson Pennington.

Discussion—Daniel Orth, Frederick G. Dyas, S. R. Pietrowicz and Gilbert Fitzpatrick.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

(*Continued from May Issue*)

The patient had what was a true trophic keratitis, and Dr. Suker believed that the only real trophic keratitis was from a complete mechanical obstruction of the fifth nerve and the cavernous plexus of the sympathetic. Loss of sensation in every branch of the fifth nerve would give a pseudotrophic appearance. What the eventual outcome of the case would be, he did not know, but he felt that the return of the circulation and the minute bruit was a distinct sign that the left hemisphere of the brain received its necessary blood supply. Up to the present time, no cerebric manifestations followed the ligation of the common carotid artery.

WEAK ATROPIN SOLUTION FOR ASTHENOPIA

Dr. William E. Gamble stated that eye and *headache* resulting from induced spasm of the sphincter iridis and ciliary muscle by the instillation of eserin was a frequent observation in his work, the discomfort usually being relatively slight, but in many cases much pain was produced. Recently one instillation of a 2 per cent solution in the eye of a physician produced so much eye pain that he had to be sent home in a cab and did not recover from the pain until the next morning. Part of the discomfort experienced in passing from a dark room into bright daylight was produced by the rapidly contracting pupils.

While with properly fitting glasses most persons could endure the accommodative spasm of their ciliary muscle in doing close work with but little pain or fatigue, there seemed to be an increasing number of those who could not. He thought that the rational treatment in these cases was to give less work to the tired eyes, to increase the nutrition of the patient and otherwise build up the general health. Unfortunately, many of them could not quit work. Temporary rest might be given by instilling a high dilution of atropin which should not dilate the pupil enough to annoy the patient and should not interfere with close work. He had found 1/200 of a grain of sulphat of atropin to an ounce of water dropped into the eye Saturday afternoons, for those who were doing close work the rest of the week, to give much relief. If used oftener, the results were better.

Dr. Gamble then narrated the history of three illustrative cases. It was not his claim that this treatment was anything but temporary, until change of conditions or general treatment gave relief. He was not sure but that in many cases an even weaker solution might be indicated. In some cases a 1/100 gr. to the ounce solution was necessary to give relief. The strength and frequency of its use varied in different individuals. This particular solution was offered as a guide. Carelessness in filling the prescription should be carefully guarded against.

It would seem that the use of it was indicated more particularly between the ages of 18 and 35 years. In younger persons the stress and strain of life had not yet produced neuroses; in the older, the pupil becomes more sluggish with advancing years and the accommodation less, with the increasing sclerosis of the lens. He was of the opinion that in many hysterical patients, the photophobia was of the trigeminal and not of the retinal type. The mechanical pressure on the nerve endings in and about the sphincter iridis was the source of the discomfort. It was rare, in his experience, to have seen indications for the use of this solution in men; practically all of the patients had been young women. He reported his experience with this drug, with the hope that indications for its use would be more carefully worked out by others than he had been able to do.

DISCUSSION

Dr. Harry Gradle asked Dr. Gamble if he had measured the influence this 1:100,000 solution had on accommodation, and whether he got the influence upon the sphincter of the iris or upon the ciliary muscle, endeavoring in that way to differentiate the origin of the pain due to the spasm.

Dr. Gamble, in closing, stated that he used 1/200 grain of atropin to the ounce of water as his weakest solution, and also used 1/100 of a grain as a maximum solution in this work.

He was interested in the question of Dr. Gradle. The second case to which he referred did not have an exaggerated contraction of the pupil, but had fatigue; and he thought in that case it was probably a hyperesthesia of the ciliary muscle. But in the other two cases, particularly the last one, the thing that struck him first was the way the pupil came down. It was more like the contraction found in a child. The patient complained of photophobia and wore No. 3 smoked glasses without relief. It was impossible for her to go out in an automobile, but by giving her 1/200 grain of atropin solution that symptom disappeared and she no longer complained. Consequently, he reached the conclusion that the greatest trouble with her was a spasm of the sphincter iridis pressing upon the nerves of the iris. It was interesting to give atropin to relieve these cases.

BASAL VISUAL FIELDS IN LESIONS OF OPTIC PATHWAY

Dr. George F. Suker illustrated his talk on the subject with graphic fields (40 odd sets) and the discussion was limited to lesions of the nerve, crus, chiasm, tract, primary centers, optic radiations and cortex. The value of the field was many-fold. By taking the field very accurately many things could be ascertained which were of great assistance in the differential diagnosis, particularly between functional and organic lesions. It was possible to distinguish between cerebral and ocular pathway lesions. In some instances, where the ophthal-

moscopic examination was absolutely negative in every way, the field often gave a clue as to where the lesion was, particularly in amblyopia.

The manner of taking the field was very important and the patients' facial contour must be considered. A narrow face with shallow temples, hollow cheek bones, raised brow and prominent eye would give a larger field, which was normal for that individual, than for one with a sunken eye and high cheek bones and large nose. The size of the test disc was also of value; the larger the disc, the larger the field, and vice versa for the normal individual. The field was always larger from the center toward the periphery than from the periphery toward the center, varying about five degrees in the normal individual.

In taking the color visions it was absolutely essential that the color be definitely seen not reddish, but red; not greenish, but green—in other words, color saturation. As one moved the color discs from the center they would change. Blue would often appear white, and green yellow. In dealing with retinal fatigue it was always desirable not to have the eye exposed too long; encourage frequent winking. The time of day and the light should also be considered. Dr. Suker believed in taking the field with good daylight, preferably north light; and did not consider it wise to take the field with any electric light or with a perimeter with an electric light attachment. The color and form perception of objects in north daylight were entirely different from that with electric light.

The larger the pupil, the larger the field, the longer the antero-posterior diameter of the eye, the smaller the field; therefore, the higher the myopia, the smaller the field. The patient should not be tried too long at one sitting. It was also necessary to consider the vertical palpebral aperture, as it influenced the height and the depth of the field. The field for form and color might vary greatly. It varied little for form in any normal individual, but the color varied greatly.

The visual cortex did not serve in perception of light only, but of color and form. The ability of the patient to recognize "C" or "A" or "B" in any particular part of a field, was essential in determining which part of the visual cortex was involved. This was an idea that needed further investigation and might lead to new facts through taking visual fields.

One chart showed the combined visual field of the two eyes. It was of no diagnostic value and only showed that the combined was larger than the monocular. Behind the chiasm all lesions would present the same kind of a field, whether it was in the optic chiasm, or in the cuneus, or the tract or radiations, with this difference, that the further behind one got and the nearer the cortex, the less observable was the lesion to the patient, unless it became absolutely complete; and the greater was their symmetry.

Dr. Suker exhibited charts of conditions met with in military service, charts showing lesions of the optic tract and of the cuneus—unilateral and bilateral. He was most interested in the lesion of the cuneus for the reason that the various interpretations of sight centered around there. The cuneus had nothing to do with the perception of form. A characteristic of the cuneus lesions was that they were very symmetrical, more so than other lesions. In many of these cases the patients recovered to a large extent, and never recognized their lesions at all, until their attentions was directed to them.

Fields did not give any further information than the location of the lesions. Lesions of the cuneus would not only give visual field defects, but would often have associated with them interferences with speech and possibly hearing. There might be complete blindness in the two eyes and the pupillary action still be present, owing to the fact that the optic nerve fibers were divided into two, one sensory and the other motor for accommodation.

The essential factor in taking a visual field was accuracy. A painstaking field would give the exact location of the lesion, depending upon the portion or portions of each field involved. If the lesions were behind the chiasm and optic nerve there often would be general symptoms associated with them. There could be no bilateral involvement unless the lesion was in the chiasm, the tract, radiations or in the cuneus lobe, unless the lesion was bilateral.

DISCUSSION

Dr. J. F. Burkholder thought there was little to be said in criticism because he presumed the findings has been corroborated post-mortem. The association of fibers should be remembered. Dr. Suker had mentioned the association of the eyes through the anterior fibers of the chiasm. Another tract had been worked out from the physiologic standpoint, which he mentioned six or seven years ago, the posterior portion of the claustrum. One could get an association between the visual centers of the two occipital lobes, particularly the cuneus, through the posterior fibers of the claustrum, and that gave an association that would account for some of the visual conditions.

The recognition of letters for taking visual fields had escaped him, but it was a good point. Another difficulty which should be made clear was the tracing of the nerve fibers from the retina back to the cuneus. If Parsons was wrong and Fuchs right, there were three series of neurons in the retina. The first series would be the rods and cones; the second would be the bipolar cells, and the third series would be the large ganglion cells, the axons of which passed out of the eyeball, forming the optic nerve, which ran backward to the chiasm where a marked rearrangement of the nerve fibers took place. From the chiasm these same neurons were carried back, forming the optic tracts, the fibers of which were distributed to the pulvinar, the external geniculate, and the anterior pair of the corpora quadragemina, and ended there.

There was no continuity of tissue between the termination of the fibers of the optic nerve in the pulvinar and the parts

that lay behind. A fourth series of neurons lay in the pulvinar and external geniculate and a few in the anterior pair of the quadragemina. The axons of this fourth series of neurons ran backward, forming a large tract or bundle which lay in the white matter of the occipital lobe. This bundle was called the optic radiation, the fibers of which were distributed to the mesial surface of the occipital lobe around the calcarine fissure, and to the angular gyrus of the parietal lobe which arched around the post terminal extremity to the superior temporal sulcus. The letter and word centers lay in the cuneus which lay superior to the calcarine fissure. The center for figures lay in the angular gyrus.

As the essayist had stated, there were two classes of fibers in the optic radiations which carried impulses to and from the cerebral cortex. But he was of the opinion that these had nothing to do with the light reflex for the pupil. The fibers that carried the reflex for the pupil left the optic tract before the visual fibers reached the pulvinar and the genicular and passed downward to the third nucleus, and from this nucleus the fibers were carried to the sphincter pupillae. This formed the true and only pupil reflex arc of the higher vertebraes.

Dr. M. Z. Albro said that two years ago a prominent physician in the city had a hemianopsia in the right field, and in taking his vision he was interested in the fact that he could not recognize letters, but in watching him he found him looking at the chart and making the form of a letter with his finger and then pronouncing the letter. This might give an idea of another road by which he reached the right recognition.

Dr. Michael Goldenburg asked if it was possible to have a unilateral loss of recognition of letters.

Dr. Suker, in closing, said that the primitive function of the eye was the nerve perception of light. All other recognition was developmental and the result of education and was due to the associated fibers around the cuneus, the gyrus and the occipito-parietal lobes. There was no such thing as a unilateral recognition of letters until there was complete blindness in one eye. A unilateral inability to recognize a letter could not exist when both eyes could function because it was a cortical lesion and the cortex had association fibers because of the claustrum joining the two eyes as Dr. Burkholder had said.

Regarding the pupillary reaction fibers and the optic nerve, the median tract of the optic nerve was the motor portion and that went to the anterior corpus quadrigemina, from there to the nucleus of the third nerve, then to the lenticular nucleus and then to the ciliary body and iris. They had no function of sight, just a motor function, and this was true of all the lower animals, whether there was complete decussation or not. The field was larger on the nasal than on the temporal side.

Anatomically the eye was located a little divergent in the socket, bringing the nasal side a little further forward, and therefore a little divergent. It had been demonstrated very well by Shaefer and by Sanger Brown that there was an association between the cuneus, the pulvinar, the geniculate body and the optic thalamus. Otherwise there could not be the field symmetry in the two eyes. Coming back to the chiasm, there could not be any lesion without involving the two eyes. That was the crux of the whole question and the nearer one got to the crux of the chiasm the more likely was there to be the type of lesion which could involve one eye more than the other.

CHICAGO OPHTHALMOLOGICAL SOCIETY

March 20, 1922

Dr. Frank Brawley in the chair.

MELANOMA OF CHOROID

Dr. George F. Suker presented a case which was described by Dr. J. C. Stein.

A school boy, aged 14, entered Cook County Hospital on March 6, 1922, complaining of crossed eyes. About seven years ago the patient recovered from diphtheria, after which it was noted that his left eye was turned in. Some months later he was operated upon for the convergence of the left eye, but later the trabismus recurred. The family history and physical examination were negative. No pigmentary spots were noted anywhere on the surface of the body. Right, vision 0.6; left, 10/200; convergent deviation of the left eye 30°; secondary deviation equal to primary deviation. Conjunctiva, cornea, iris, lens, and vitreous essentially negative, and the pupil reactions were normal.

Fundi: Right eye; the optic disc was normal. Two and one-half disc diameters above it, and slightly temporal was seen a definitely circumscribed area about twice the size of the optic disc. The nasal side of this area was just temporal to an imaginary vertical line touching the temporal side of the optic disc. The patch was rather sharply defined, resembled the human heart in shape and was apparently situated in the choroid. The retina over it was not raised or depressed. The superior temporal vein coursed over this and divided in its inferior temporal quadrant; one branch passing directly temporal, the other superior and temporal. Several small arterial twigs arising from a branch of the superior temporal artery passed over this circumscribed area. No change in the level of these vessels was noted. This sharply circumscribed smooth area appeared of slate (blue ointment) color, somewhat stippled and somewhat thinner in a few places, allowing the choroidal circulatory system to show through. This condition was especially noted in the superior nasal portion of this area, where the margin was rather uneven and feathered.

Left eye. Essentially negative, except for a vertical elliptical disc. Scotoma mapping was unsatisfactory.

Hospital Diagnosis: Melanoma of the choroid (nevus-pigmented mole) of the right eye; left concomitant convergent strabismus with amblyopia ex anopsia.

Pulsating Exophthalmos

Dr. Suker also presented a case described by Dr. Cottle.—This patient entered Cook County Hospital, Feb. 20, 1922, with the history that he had been shot through the left cheek on January 3, 1922, the bullet passing through the cranial cavity. Two attempts had been made in another hospital to remove the bullet. Five days following the injury the left eye began to swell, the lids became edematous, and in the course of the ensuing week he lost all vision and movement. He stated that he could feel "a pumping in his eye" and "a roaring in the left ear." He was unable to open the mouth fully, owing to fracture of the left ascending ramus of the mandible.

THE CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The Annual Meeting of the Chicago Laryngological and Otological Society was held on Monday evening, May 8, 1922, at the Hotel Sherman at 8:00 o'clock.

The President, Dr. Robert Sonnenschein, in the chair.

Scientific Program

John P. Minton, Ph. D., and Robert Sonnenschein, M. D., presented papers entitled:

1. "Study of Reinforcement of Sound by Means of the Schaefer Resonators."

2. "Use of Tuning Fork Stem for Both Air and Bone Conduction in Rinne Test."

(Abstract)

Dr. Minton in his paper stated that many cases of deafness might easily be regarded as complete were it not for the establishment of the contrary through the increase in the loudness of the sounds from tuning forks by means of the resonators. Their employment is to be strongly recommended.

After outlining in detail their experimental work with the Schaefer resonators Dr. Minton stated that they had arrived at the following conclusions:

"1. The sound intensity amplification of the (Schaefer) resonators depends on the manner in which they are used. The maximum value of this amplification as observed, firstly, by the examiner is 273; secondly, by the patient, 44, and thirdly, as it appears in unconfined space, 10,700.

"2. The efficiency of the Schaefer apparatus as a resonator decreases rapidly for the higher pitched tones. The same is true at the lower pitched ones except when tested in the open, unconfined space.

"3. The resonators do not increase the total energy given forth by the tuning fork, but permit this energy to be dissipated at a greater rate.

"44. The decrease of the efficiency of the resonator with rising pitch is due to the *unfavorable* phase relation of the air pressure produced by the tuning fork with that caused by the resonator.

"55. Inasmuch as the resonators cause tones to be produced of greatly reinforced intensity, they might be of considerable value from a clinical viewpoint. This is particularly true for the set of four Schaefer resonators since there are given herein the actual magnitudes of the intensity amplification. As noted in previous papers the Schaefer resonators lend themselves well to practical purposes since they cover a comprehensive range, are comparatively cheap, compact and easily manipulated."

Dr. Sonnenschein outlined their work in determining the amount of bone and air conduction by the use of the tuning fork stem and said that the method employed was to excite the fork in the manner chosen by each individual otologist, endeavoring to do this in a definite way in order to get uniform results. They used the small a' fork (435 d. v.) of Bezold. Holding this at right angles to the body a small pleximeter (such as is employed by neurologists for testing reflexes) was allowed to drop of its own weight from a perpendicular to a horizontal position, striking the flat surface of the prong. The stem was then held against the mastoid process in the usual manner and the duration of hearing by bone conduction noted. The fork was then inserted into one end of a rubber tube, the other end of which was attached to a vulcanized rubber olive-shaped tip (such as is often used with a Politzer bag) and the latter inserted into the meatus auditorius extermus, care being taken that the lumen of the tip was not occluded by contact with a part of the concha or wall of the meatus. The duration of hearing via air conduction was then noted.

The dimensions of the tubing used were: length, 51 om.; width of lumen, 0.7 om.,; thickness of the wall, 1.5 mm. Clinically, this method of doing the Rinne test was carried out on 35 cases. First the test was performed in the usual manner and then repeated by means of the rubber tubing, as described. The findings in the 35 cases are stabulated. Of these cases, six had normal ears, twelve showed either tubal catarrah or acute or chronic otitis media, one was apparently a typical otosclerosis, one was suspicious of a beginning otosclerosis, five showed auditory nerve degeneration and ten apparently had both middle and internal ear changes. As a result of this work the following conclusions were considered justifiable:

"1. Physical experiments show that with the fork stem inserted in the end of a rubber tube the sound waves are transmitted to ear by air column and not by way of the tubing wall.

"2. Clinical findings show that with the fork stem in tubing connected with the ear via hard rubber olive tip, the sound is in many cases heard somewhat longer than with prongs held near the ear. In most cases, however, of middle ear disease, especially those with negative Rinne, the hearing via tube was somewhat less than that with the prongs, whereas if the hearing had been via bone conduction it should have been increased with the tip of the ear.

"3. It therefore seems feasible to determine not only bone conduction as is usually done, but also the air conduction in the Rinne test by means of the stem of the fork."

DISCUSSION

Dr. Edwin McGinnis asked if they had tried stuffing cotton in the middle of the tube to see if there was interference with the sound.

Dr. Sonnenschein replied that they had not.

Dr. G. W. Boot asked if they had always used the same length of tube.

Dr. Sonnenschein replied that they had and that it was twenty-six inches long. While it was impossible to demonstrate their point absolutely, it was a fact that the sound waves passed along the lumen of the tube, very little going through the wall and very little being transported by the tube wall itself.

Dr. E. L. Kenyon asked why they could not use a soft insert in the middle ear instead of the hard rubber tube, perhaps just the tube itself.

Dr. Sonnenschein said they had tried that but it was hard to hold it in place. The tip being pointed held it nicely in the ear without striking any of the outside portion of the ear. It was just the size ordinarily used with the Politzer bag.

Dr. J. Holinger said that there has always been contro-

versy where he could not see any reason for it. In the Rinne test we know that the handle of the tuning fork vibrates as long as the prongs do. It is therefore immaterial whether we observe the handle or the prongs since it is only a question of time. It was the aim of Bezold to make all the tests as simple as possible. The question of human equation enters into the tests and the less and simpler apparatus are used the more reliable and the more uniform the results will be. Also, the less the excitement of the patient the better the result will be. It is true, some points are theoretically not explained. In regard to this Bezold uses the comparison of hearing the heart sounds by means of the stethescope. It is not known accurately how and where the heart sounds are produced, but it is known that if there are certain changes from the normal sounds, we find at the post-morten certain characteristic changes of the valves of the heart (stenosis, etc.). Nobody would go so far as to advise throwing the whole auscultation of the heart overboard because we do not know how the sounds of the heart are produced or how the abnormal sounds can be explained. In his opinion, the only way to attack the question is to say that if there is a negative Rinne in a given case and a middle ear affection is not found at the postmortem, then there is room for an argument. Observe the facts accurately, immaterial of the explanation. Many an explanation was not found because the facts were not observed accurately.

The work of Dr. Sonnenschein was important, and showed that he is thinking. Dr. Holinger believes in simplifying, not complicating these difficult matters.

Dr. G. E. Shambaugh believed that the work with resonators will bring out some very interesting facts. The method in vogue of testing different parts of the tone scale by such means as tuning forks brought out a good many incidences where gaps in the tone scale existed, that is, where patients were not able to hear the tones over a certain area. By intensifying these tones with resonators many of these apparent gaps in the tone scale disappeared. It seems likely that with enough amplification there might be found to exist no real tone gaps, that is, areas where one cannot hear a tone, provided the entire function of the labyrinth has been destroyed. It is a practical point of great importance in the education of a child with defective hearing, that is, training the child to speak to ascertain whether there is any remnant of hearing. By use of resonators this may be determined more readily. Even a very small remnant of hearing is often of great assistance in training a child to speak.

The study of the Rinne test is very interesting. Dr. Shambaugh believed that the Rinne test taken by itself gives more definite information than does any other single test in determining whether the cause for the defect is from obstruction in sound conduction or a defect in the sound perceiving apparatus. The Rinne test is perhaps more valuable than all the other tests put together in determining this point. In making use of this test one has to take into consideration whether one or both ears are involved. A patient with a one-sided defect, that is at all marked, is bound to have a Rinne negative, no difference whether this defect is due to obstruction in sound conduction, fixation of the stapes, or whether this defect is due to degeneration in the nervous mechanism.

There seems to be an impression that bone conduction can be determined separately for the two ears. As a rule it will be found that the bone conduction is approximately the same when the fork is placed over the mastoid process in an ear where we are clinically satisfied that there has been a total destruction of function as when the fork is placed over the mastoid of the opposite normal ear. It is the exceptional case where under circumstances of this sort one is able to detect a slight difference in the duration of bone conduction of the two sides.

Dr. John P. Minton (closing), answering Dr. Boot's question, said that the length of time the sound can be heard with the resonator is less than without it. The degress of bone conduction in old age had nothing to do with resonance, but the change was probably due to partial degeneration of the internal ear mechanism and not at all to other changes that go on.

Dr. Robert Sonnenschein (closing) stated that he had the pleasure, in 1909, of becoming acquainted with Dr. Schaefer and became interested in his resonators. As he had said in 1912, when he read a previous paper on this subject, the great advantage of the resonators lies in several facts. They were first made use of for experimental purposes by the great Helmholtz. As the resonators were spherical and tested the whole range of sounds from 100 to 1,000 vibrations, it was necessary to have a great many of them and it consumed much time in shifting from one sphere to the other, besides being very expensive. Koenig in Paris also devised a set and Edelmann had a set, but they all have a great many parts. Professor Schaefer constructed a very simple set consisting of four resonators and in these he has the range of from 100 double vibrations to 1,000 double vibrations. Dr. Sonnenschein had received a letter from Professor Schaefer two days previously in reply to one of his asking if there was any work that he knew of along the line he and Dr. Minton were carrying out, and Professor Schaefer said he knew of no such work. They admitted that there might be errors. They had checked up the world and would be glad to know if others would do so and tell them their results. It was interesting to test the work out and find out whether it was worth anything from a practical standpoint.

It was very interesting to know the intensity amplification as it appears in a closed room and as it occurs out of doors. In the open the higher fork, namely, small c^3, seemed to be amplified only five times. If they struck a high pitched fork it could be heard at a distance of five meters indoors, while out of doors one can hear the low tone a great distance.

One thing that was hard to explain was the fact that the lower tone and the higher tone were the least amplified, and the middle the most, as shown by Schaefer long ago. The fact that out in the open air the intensity of the amplification is so tremendous, whereas in the room to the examiner and the patient the amplification for the low tones is so small was very interesting.

What Dr. Holinger said about the practicality of the test as devised by Bezold was absolutely correct. Bezold's work was wonderful and they were not attempting to change any test, but felt that it would be interesting to find out if the fork could be used in a different way, especially since some European workers had condemned the Rinne test so strongly.

Dr. Sonnenschein agreed with Dr. Shambaugh regarding the value of the Rinne test and approved the simplicity of the tests, but this work was for the purpose of satisfying themselves. If anyone would check them up and disprove their results they would be glad to know the truth.

Dr. Shambaugh had called attention to the fact that it might be possible to test patients with the resonators who apparently did not hear the forks at those pitches. That might not prove whether there were gaps, for it is necessary in some cases to increase the tone intensity 100 million times before the patient can appreciate it. In cases where there was impairmnt and not total loss of hearing of tone it might be of assistance.

Dr. George F. Shambaugh presented a series of lantern slides illustrating the distribution of blood vessels in the internal ear and discussed the subject of the circulation of the labyrinth.

MACOUPIN COUNTY

The Macoupin County Medical Society met in the New Commercial Club Rooms, Virden, Illinois, March 27, 1923, and was called to order by Vice-President E. E. Bullard of Girard.

Seventeen members and visitors were present.

Dr. C. Ellsworth Black of Jacksonville gave a very interesting address on "Metabolism," clinically illustrated by living subjects.

Dr. Carl E. Black of Jacksonville gave a very

interesting address on "Shock," illustrated with lantern slides.

Drs. Black & Black were given a rising vote of thanks for their excellent papers and illustrations.

The Censors reported Staunton as the place for the next meeting of the Society and the following officers were elected for the coming year: President, Dr. E. E. Bullard, Girard; vice-president, Dr. G. A. Floreth, Mt. Olive; secretary-treasurer, Dr. T. D. Doan, Scottville; medico-legal member, Dr. T. W. Morgan, Virden; delegate, Dr. T. D. Doan, Scottville; alternate delegate, Dr. J. R. Higgins, Gillespie.

MADISON COUNTY

May Meeting

The Madison County Medical Society met in regular session at the Wildey Theatre with President Hugo C. H. Schroeder in the Chair.

Dr. W. W. Billings, of Troy, Illinois, was accepted to membership by transfer card from Greene County.

The report of Miss Heighway, Community Nurse, was filed with the Secretary.

The Secretary called attention to the members present that Senate Bill No. 251 relative to an amendment grouping Counties into Districts for joint Sanitoriums, and Senate Bill 95 providing for graded health instructions in the curriculum of our schools were now pending before the House, and that the Officers of the Illinois Tuberculosis Association were asking co-operation through the profession in favor of the passage of these bills, and asking that individual members write their representatives and senators concerning same. After some discussion it was moved by Dr. Pfeiffenberger, seconded by Dr. Robertson that the Society endorse the bills referred to and that the Secretary communicate this information to the officers of the Illinois Tuberculosis Association and that each member write his representatives asking their support.

President Schroeder called attention to the Society of the Educational Program that is now being introduced by the Illinois Medical Society in the form of newspaper publicity in and throughout the State of Illinois, in the interest of the Medical Profession and that said program called for the expenditure of considerable money and the members of the profession were asked to contribute voluntarily to this fund. Dr. Wahl moved that the Madison County Medical Society contribute $50.00 out of their general treasury towards this fund, seconded by Dr. Hirsch, carried.

On motion of Dr. Pfeiffenberger, seconded by Dr. Gillis, the Secretary was instructed to draft a letter in the form of an appeal to be sent to every doctor in Madison County asking him to contribute individually to this fund, motion carried.

The matter of arranging for a Tuberculosis Clinic to be held during the summer months was discussed and upon motion of Dr. Pfeiffenberger seconded by Dr. Gillis the Chair was authorized to appoint a Committee with Miss Heighway as member to make necessary arrangements. The Chair appointed on this Committee, Dr. Barnsback, Dr. Kaeser and Miss Heighway and Secretary.

Dr. John R. Lionberger of Parke-Davis and Company then presented his lecture "Vitamines," illustrated with lantern slides, which was very interesting and highly instructive and brought forth a general discussion.

Upon motion of Dr. Pfeiffenberger a rising vote of thanks was tendered the speaker for his lecture.

On motion adjourned.

Personals

Dr. Cassius C. Rogers discussed the treatment of cranial and intracranial lesions, before the Lee County Medical Society, April 10, at Dixon.

Dr. George W. Hoover, for the past nine years chief of the Chicago district of the U. S. Department of Agriculture, has been appointed chemist in charge of the drug control of the United States, it was announced, April 20.

Dr. H. B. Carriell, who was relieved as managing officer of the Dixon state colony, January 1, has been reinstated in the service of the state charities with rank of senior physician and has been ordered to report to Kankakee Hospital by the governor.

Dr. R. J. Burns has been appointed health commissioner of Freeport.

Dr. J. M. Beveridge of Oregon was elected a director of the sanitorium board of the Ogle County Tuberculosis Society, recently.

At the recent meeting of the American Drug Manufacturers' Association held in New York, April 16 to 19, Dr. Alfred S. Burdick was elected president for the coming year. Doctor Burdick is well known to the readers of THE ILLINOIS MEDICAL JOURNAL. Our congratulations are extended to Doctor Burdick on this merited recognition and to the American Drug Manufacturers' Association on the wisdom of its choice.

Dr. Burdick is the author of the Standard Medical Manual, The Remedy, Common Emergencies, and other books. During the war he was a member of a Chicago draft board and has been active in trade association work as a director of the American Pharmaceutical Manufacturers' Association, a governor of the Synthetic Organic Chemical Manufacturers' Association and a member of the executive committee of the American Drug Manufacturers' Association. He was recently elected vice-president and chairman of the

fine organic section of the synthetic organization.

At the meeting referred to, important matters relating to narcotic-drugs' regulation, legislation, pharmaceutical progress, scientific research, medical chemicals, and other relevant topics were discussed. In the matter of narcotic-drugs' regulation, especially, constructive recommendations were made which, it is hoped sincerely, will aid in bringing the chaos now prevailing to a greatly needed close and establish equitable and just regulations.

News Notes

—The Western Electro-Therapeutic Association at its meeting in Kansas City, April 19-20, elected the following officers: President, H. H. Bowig, Rochester, Minn.; first vice-president, E. H. Skinner, Kansas City; second vice-president, A. D. Willmoth, Louisville, Ky.; treasurer, W. P. Grimes, Kansas City; registrar, B. C. Harris, Sapulpa, Okla.; trustees, T. Howard Plank, Chicago, and B. B. Grover, Colorado Springs.

—The Elgin Physicians Club at the annual meeting, May 9, elected Dr. Sally Howell, president; Dr. F. T. Eichler, vice-president, and Dr. Olive H. Kocher, secretary. R. T. Lamb, an Elgin broker, gave an address on "The Science of Investment." Dr. Frank Wieland of Chicago gave a lecture on "Studies in Sterility."

—The Illinois Society for Crippled Children, fostered by the Rotary Club, was organized in Bloomington April 12.

—It is reported that Federal Judge English fined Dr. Ezra Hart, Harrisburg, $500 when he pleaded guilty, April 14, to the second offense of violating the Harrison Narcotic Law.

—The Metropolitan Life Insurance Company has renewed its grant of $3,000 to the department of hygiene and bacteriology of the University of Chicago, for special investigations in respiratory diseases.

—It is reported that Dr. I. Clark Gary, proprietor of the Peoples' Hospital and Training School for Nurses, Chicago, was convicted in the federal court, April 23, on a charge of selling narcotics to drug addicts who were patients in the hospital. He was fined $2,200.

—At the annual meeting of the Central Illinois Medical Society in Pana, Dr. Dorwin D. Barr, Taylorville, was elected president; Dr. Thomas O. Freeman, Mattoon, vice-president, and Dr. Franklin A. Martin, Pana, secretary-treasurer.

—The association of interns of St. Luke's Hospital will tender a banquet to former interns of the hospital, June 4, at the Hotel Morrison. It is requested that all former interns communicate with Dr. Dean Burns at the hospital.

—The average number of cases of measles in Chicago increased from thirty-three a day in January, to 144 a day during the first ten days of May. The council finance committee, May 10, voted $2,000 for extra quarantine officers to fight the epidemic. The city health commissioner stated that since January 1, 10,836 cases had been reported in Chicago.

—At the annual meeting and banquet of the Chicago Laryngological and Otological Society, May 3, the following officers were elected for the ensuing year: President, Dr. John A. Cavanaugh; vice-president, Dr. Austin A. Hayden, and secretary-treasurer, Dr. Edwin McGinnis; the president, Dr. Charles H. Long, spoke on "Chicago's Past Masters in Oto-Laryngology."

—Dr. Omar M. Willis of Metropolis, who was indicted for violation of the Harrison Narcotic Law, was sentenced recently, it is reported, to serve three years in Leavenworth, and to pay a fine of $500. Dr. Willis was indicted along with four others from the same city. Evidence was introduced to show, it is reported, that he had dispensed 13,000 grains of morphin within the last fourteen months.

—The name of the Hahnemann Hospital of Chicago has been changed by the board of trustees to "The Chicago Memorial Hospital." The board states that the practice and work of the hospital now conforms in all respects to that of other approved hospitals of Chicago.

—Twelve social service agencies officially began work in a new home in the Keehn building at 308 North Michigan avenue, May 1. Two of the agencies were already located in this building. Among the organizations which have their administrative offices at this location are: The Chicago Association for the Prevention and Relief of Heart Disease; the Illinois Society for Mental Hygiene; Illinois Society for the Prevention of Blindness, and the Infant Welfare Society.

—Mrs. Theodore B. Sachs, widow of the late Dr. Sachs, has succeeded James Minnick as superintendent of the Chicago Tuberculosis Insti-

tute. The staff comprises a physician, a crusade director, a publicity director, a placement bureau director, a supervisor of nurses, two assistant supervisors, eighteen public health nurses, and a custodian of property. The institute has recently arranged to furnish tooth brushes and powder for children at cost. These are dispensed by public health nurses employed throughout Cook county by the institute. To raise money for a cottage for tuberculous nurses, photographs of the London monument to Edith Cavell are being sold.

—At a banquet of the Chicago Section of the American Chemical Society, May 25, the Willard Gibbs Medal was presented to Julius Stieglitz, Ph.D., in recognition of his research work on molecular rearrangement and his interpretation of univalent nitrogen. The medal was presented by its founder, Mr. W. A. Converse. Professor Stieglitz is chairman of the department of chemistry, University of Chicago; chairman of the Committee on Synthetic Drugs of the National Research Council, and has been a member of the Council on Pharmacy and Chemistry of the American Medical Association since its inception.

—Dr. Lena K. Sadler, 533 Diversey Parkway, was hostess recently to a new medical society, The Chicago Council of Medical Women, incorporated May 8. The incorporators are: Dr. Anna E. Blount, Dr. Alice Conklin, Dr. Effa V. Davis, Dr. Mary E. Hanks, Dr. Lena K. Sadler. The purpose of the Council is to collate valuable clinical experience and to promote fellowship. Membership is limited to women holding a license to practice medicine and to seventy-five active members. The management is represented by Anna E. Blount, president; Mary E. Hanks, first vice-president; Annie W. Sage, second vice-president; Lena K. Sadler, secretary; Eliza R. Morse, treasurer; Alice Conklin, Effa V. Davis, and Helga Ruud, directors; Sarah M. Hobson, editor. Eighteen charter members are enrolled.

Deaths

Thomas Grant Allen, Chicago; Northwestern University Medical School, Chicago, 1898; member of the Chicago Pediatric Society and the Central States Pediatric Society; formerly professor of children's diseases at the Post-Graduate Medical School; served in the M. C., U. S. Army, during the World War; on the staff of U. S. Veterans' Hospital No. 30; aged 59; died, May 10, of pneumonia.

Edward Pinchon Bartlett, Springfield, Ill.; St. Louis Medical College, St. Louis, 1870; Bellevue Hospital Medical College, New York, 1875; state commander of the Grand Army of the Republic; aged 81; died, May 10, of cardiac asthma, at a local hospital.

Franklin Pierce Bivins, Shelbyville, Ill.; Miami Medical College, Cincinnati, 1881; aged 69; died, April 22, following a long illness.

Elizabeth Neil Brady, Oak Park, Ill.; Northwestern University Woman's Medical School, Chicago, 1900; aged 53; died, May 18, of heart disease.

James S. Collins, Carlinville, Ill.; Rush Medical College, Chicago, 1880; in active practice till recent years; formerly president of Macoupin County Medical Society; aged 68; died, May 8.

Howard Charles Emons, Chicago; Chicago College of Medicine and Surgery, 1917; a Fellow A. M. A.; served in the M. C., U. S. Army, during the World War; on the staff of the U. S. Marine Hospital No. 5, where he died, May 2, of pneumonia; aged 32

Life Harrison, Peoria, Ill.; Chicago College of Medicine and Surgery, 1911; member of the Illinois State Medical Society; aged 37; died, May 6, in Delmar, Iowa.

Timothy Hartigan, Chicago; College of Physicians and Surgeons, Chicago, 1896; aged 62; was found dead in bed, April 23, of organic heart disease and chronic nephritis.

William Robert MacKenzie, Chester, Ill.; University of Michigan Medical School, Ann Arbor, 1870; member of State Board of Health 1883-1893; a Fellow, A. M. A.; aged 79; died, April 24.

Clinton Edward Powell, Polo, Ill.; Marion-Sims College of Medicine, St. Louis, 1897; served in the M. C., U. S. Army, during the World War, with the rank of captain; aged 49; died, April 17, of chronic nephritis.

Maurice J. Quille, Jr., Chicago; American College of Medicine and Surgery, Chicago, 1905; a Fellow A. M. A.; aged 37; died, April 29, of septicemia.

Leonard A. Robison, Canton, Ill.; Cincinnati College of Medicine and Surgery, Cincinnati, 1888; aged 70; died suddenly, May 3, of erysipelas.

Lot Snoddy, Chicago; Jefferson Medical College of Philadelphia, 1880; member of the Illinois State Medical Society; aged 65; died suddenly, April 24, of heart disease.

Mark Spicker, Chicago; Medical Department of the University of the City of New York, 1872; aged 72; died, May 10, of uremia.

John George A. Stahl, Chicago; Rush Medical College, Chicago, 1895; aged 59; died, May 10, of cerebral hemorrhage.

Lewis Llewellyn Wickersham, Malden, Ill.; Rush Medical College, Chicago, 1882; also a druggist; aged 63; died, April 23, at the Perry Memorial Hospital, Princeton, of an overdose of veronal, presumably self-administered.

Annie M. Young, Chicago; Hahnemann Medical College and Hospital, Chicago, 1889; aged 65; died, April 13.